J4024-01

SAS/SATA JBOD SERIES

User's Manual

D/N:MAN-00305-B
P/N: H884JKC000-00010-?

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PREFACE

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- **Changes**

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- **Warning**

  1. A shielded-type power cord is required in order to meet FCC emission limits and also to prevent interference to the nearby radio and television reception. It is essential that only the supplied power cord be used.
  2. Use only shielded cables to connect I/O devices to this equipment.
  3. You are cautioned that changes or modifications not expressly approved by the party responsible for compliance could void your authority to operate the equipment.

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SAFETY INSTRUCTIONS

- Before getting started, please read the following important cautions:
- All cautions and warnings on the equipment or in the manuals should be noted.
- Most electronic components are sensitive to electrical static discharge. Therefore, be sure to ground yourself at all times when installing the internal components.
- Use a grounding wrist strap and place all electronic components in static-shielded devices. Grounding wrist straps can be purchased in any electronic supply store.
- Be sure to turn off the power and then disconnect the power cords from your system before performing any installation or servicing. A sudden surge of power could damage sensitive electronic components.
- Do not open the system's top cover. If opening the cover for maintenance is a must, only a trained technician should do so. Integrated circuits on computer boards are sensitive to static electricity. Before handling a board or integrated circuit, touch an unpainted portion of the system unit chassis for a few seconds. This will help to discharge any static electricity on your body.
- Place this equipment on a stable surface when install. A drop or fall could cause injury.
- Please keep this equipment away from humidity.
- Carefully mount the equipment into the rack, in such manner, that it won't be hazardous due to uneven mechanical loading.
- This equipment is to be installed for operation in an environment with maximum ambient temperature below 35°C.
- The openings on the enclosure are for air convection to protect the equipment from overheating. DO NOT COVER THE OPENINGS.
- Never pour any liquid into ventilation openings. This could cause fire or electrical shock.
- Make sure the voltage of the power source is within the specification on the label when connecting the equipment to the power outlet. The current load and output power of loads shall be within the specification.
- This equipment must be connected to reliable grounding before using. Pay special attention to power supplied other than direct connections, e.g. using of power strips.
- Place the power cord out of the way of foot traffic. Do not place anything over the power cord. The power cord must be rated for the

- product, voltage and current marked on the product's electrical ratings label. The voltage and current rating of the cord should be greater than the voltage and current rating marked on the product.
- If the equipment is not used for a long time, disconnect the equipment from mains to avoid being damaged by transient over-voltage.
- Never open the equipment. For safety reasons, only qualified service personnel should open the equipment.
- If one of the following situations arise, the equipment should be checked by service personnel:
  1. The power cord or plug is damaged.
  2. Liquid has penetrated the equipment.
  3. The equipment has been exposed to moisture.
  4. The equipment does not work well or will not work according to its user manual.
  5. The equipment has been dropped and/or damaged.
  6. The equipment has obvious signs of breakage.
  7. Please disconnect this equipment from the AC outlet before cleaning. Do not use liquid or detergent for cleaning. The use of a moisture sheet or cloth is recommended for cleaning.
- Module and drive bays must not be empty! They must have a dummy cover.

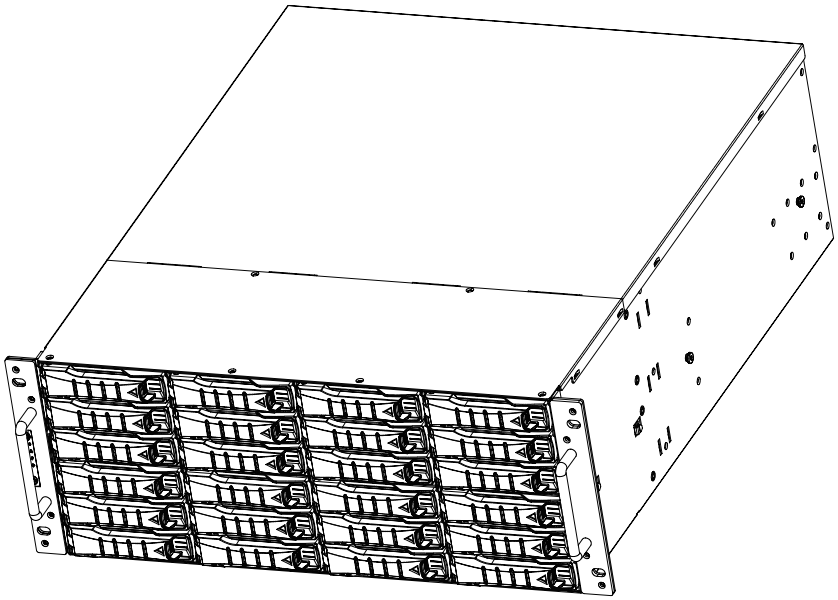
Product features and specifications are subject to change without notice.

CAUTION :
RISK OF EXPLOSION IF BATTERY IS REPLACED BY AN INCORRECT TYPE.
DISPOSE OF USED BATTERIES ACCORDING TO THE INSTRUCTIONS.
AFTER PERFORMING ANY INSTALLATION OR SERVICING, MAKE SURE THE ENCLOSURE ARE LOCK AND SCREW IN POSITION, TURN ON THE POWER.

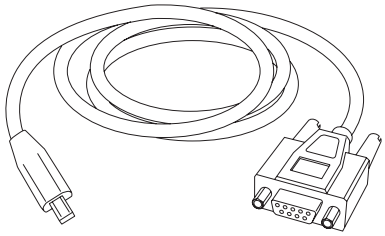
Chapter 1. Prodcut Introduction

1.1 Box Content

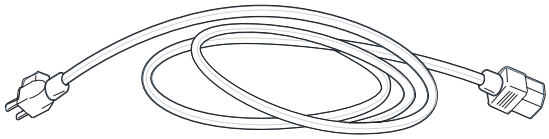
Before removing the subsystem from the shipping carton, visually inspect the physical condition of the shipping carton. Exterior damage to the shipping carton may indicate that the contents of the carton are damaged. If any damage is found, do not remove the components; contact the dealer where the subsystem was purchased for further instructions. Before continuing, first unpack the subsystem and verify that the contents of the shipping carton are all there and in good condition.



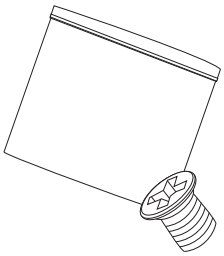
- Enclosure(Power supply, fan, 24 HDD tray included)



- RS232 cablex 1pcs

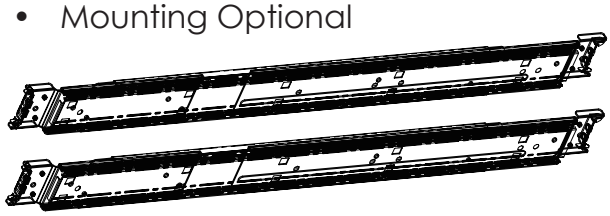


- Power cord x 2pcs



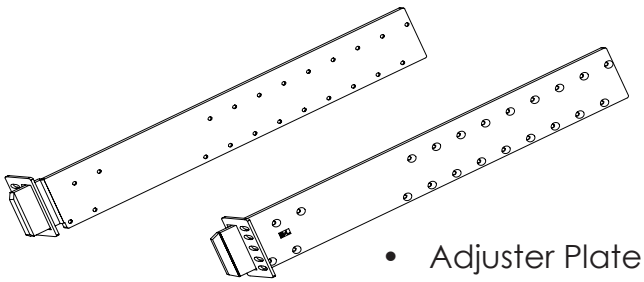
- Screws kit x 1set

- Mounting Optional



- Slide Rail x 1set

or



- Adjuster Plate x 1set

If any items are missing, please contact your authorized reseller or sales representative.

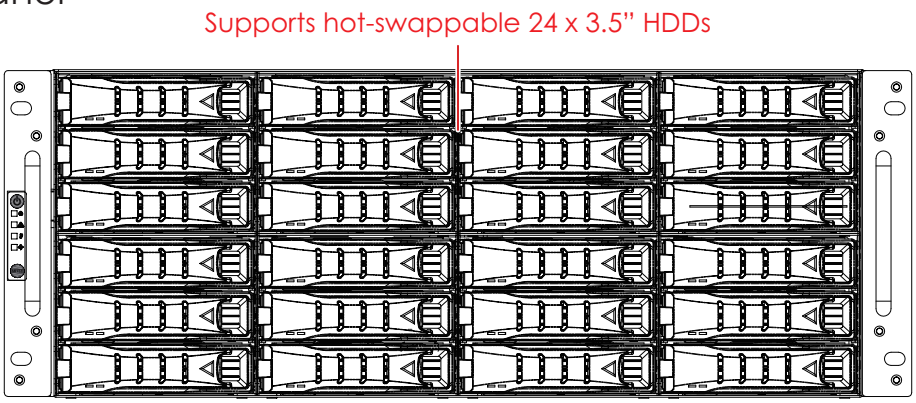
1.2 Specifications

GENERAL	
Number of Expander	2
Expander Chip	LSI SAS3X36R
Host/Expansion Interface	3 x Mini SAS HD （SFF-8644） per expander tray
DRIVES SUPPORTED	
Drive Interface	6Gb/12Gb SAS
	6Gb SATA
Form Factor	3.5"
ADMINISTRATION / MANAGEMENT	
Admin/Firmware Upgrade	SAS In-band
	Serial port via Hyper-terminal
	IEM Port （Optional）
LED Indicators, Audible Alarm	Yes
HOT-SWAP & REDUNDANCY	
Disk Drive	Hot-swap 24-bay
Cooling	4 x 6038 hot-swap fans
Power Supply	549W 1+1 hot-swap redundant 80+ Platinum
Power Entry	Dual AC Inlet
ELECTRICAL & ENVIRONMENTAL	
Universal A/C Input	100~240V AC full range
Operating Environment	Temperature 0°C to 35°C
	Relative humidity 20% to 80%
Non-operating Environment	Temperature -20°C to 60°C
	Relative humidity 10% to 90%
PHYSICAL SPECIFICATION	
Dimensions (W x D x H)	mm: 483 x 534.2 x 173.8 inches: 19 x 21 x 6.8
Gross Weight w/ PSU; w/o Rail & Disks	26 kgs / 57.3 lbs
Packaging Dimension (W x D x H)	mm: 590 x 851 x 378 inches: 23.2 x 33.5 x 14.88
Mounting Option	28" INNER RAIL BKT
Product Features	
New Technology LSI SAS 12G	High Density
Optimized Thermal/Acoustic Solution	Fully Hot-swap Modulize Design

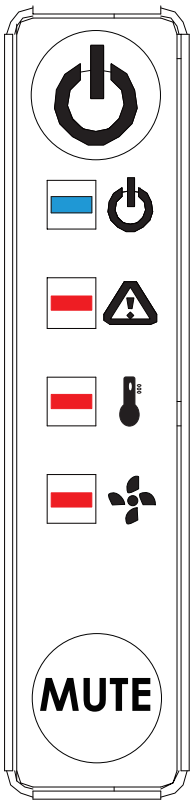
1.3 General Information

J4024-01 is a 4U rackmount chassis with 24 x 3.5"HDD hot swap bay and dual expand module JBOD, which is a high performance, high density, scalable storage product. The J4024-01 JBOD supports T10 zoning function and can be shared by up to 6 servers.

- Front Panel



LED Indicator and Switch



System PWR Switch	
Behavior	Status
Normal	Off
Press	Boot up
Long Press	system shutdown

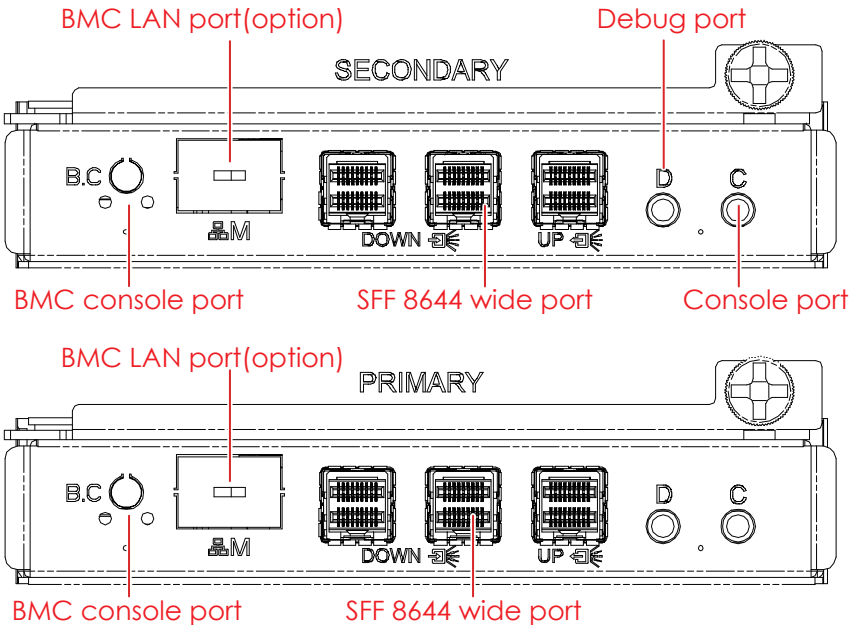
Power Fault LED	
Behavior	LED Status
Normal	Off
Failed	Red

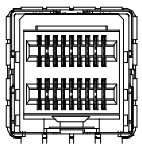
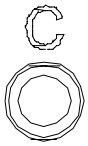
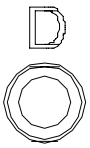
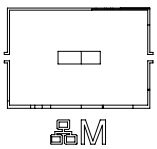
Temperature(Overheat) LED	
Behavior	LED Status
Normal	Off
Failed	Red

Fan fault LED	
Behavior	LED Status
Normal	Off
Failed	Red

System Alert Mute Switch	
Behavior	Status
Normal	Off
Press	Alert mute

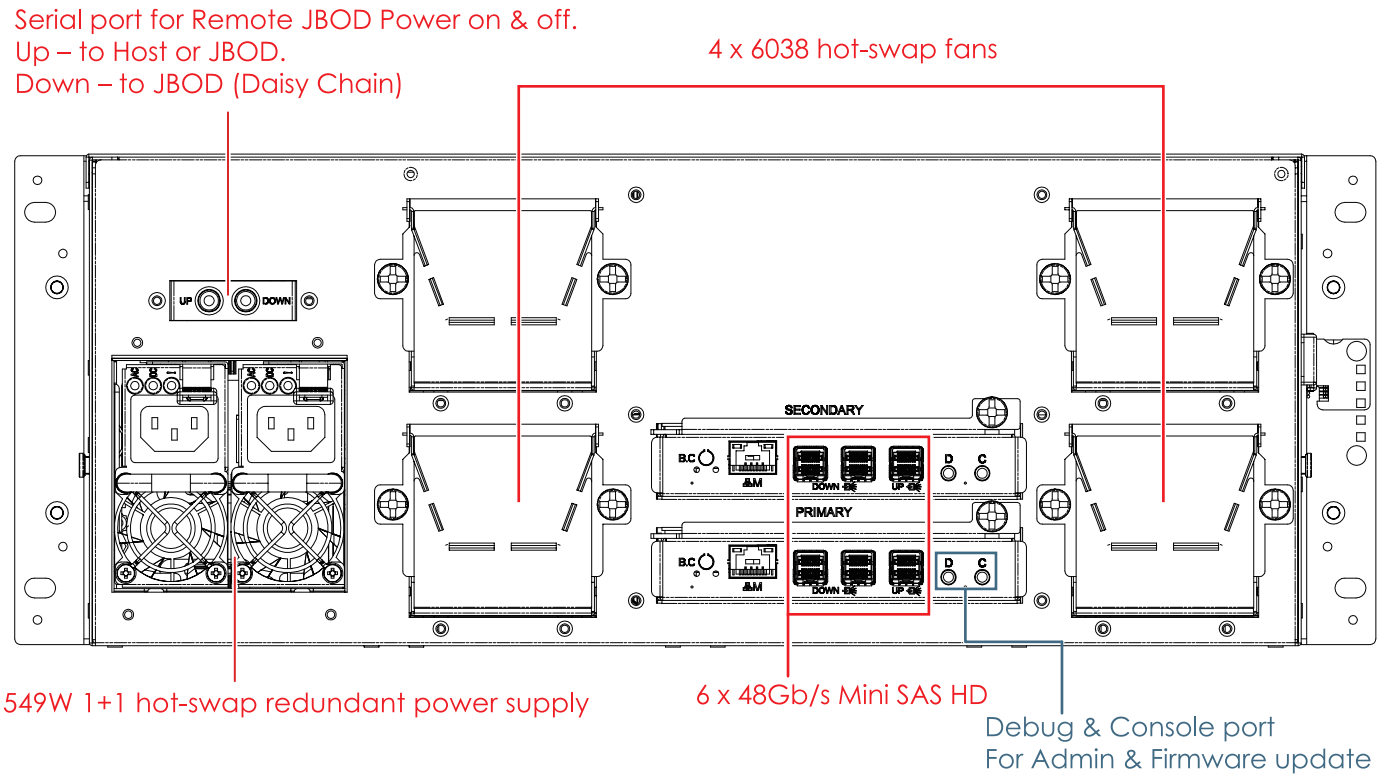
- Rear Expender Panel



Item	Describtion
	SFF8644 wide port
	Console port
	Debug port
	BMC LAN port
	BMC console port

2 Dual Expander (Primary & Secondary)

- Rear Panel


Serial port for Remote JBOD Power on & off.
Up – to Host or JBOD.
Down – to JBOD (Daisy Chain)
4 x 6038 hot-swap fans
UP
DOWN
SECONDARY
PRIMARY
549W 1+1 hot-swap redundant power supply
6 x 48Gb/s Mini SAS HD
Debug & Console port
For Admin & Firmware update

1.4 SCSI Enclosure Services - 2 (SES-2)

To ensure J4024-01 can work properly and provide high performance, durability. J4024-01 has implemented SCSI Enclosure Services-2 to monitor the status of power supply, system cooling fan and working temperature. It also has the indicators to deliver the status of fail devices such as power supply or cooling fan. You can get the information directly from the front indicators to know how your enclosure works.

For detailed information, please visit http://www.t10.org
If you are a member of the T10 working group, the Standard which controlled by T10 technical committee, could be found at
http://www.t10.org/cgi-bin/ac.pl?t=f&f=ses2r19a.pdf

1.4.1 SES pages supported are listed below

- 00h -list of supported diagnostic pages
- 01h -SES -configuration
- 02h -SES -enclosure control / enclosure status
- 07h -SES -element descriptor
- 0Ah -SES -additional element
- 0Eh -SES -download microcode control / SES download microcode status

1.4.2 SES elements supported are listed below.

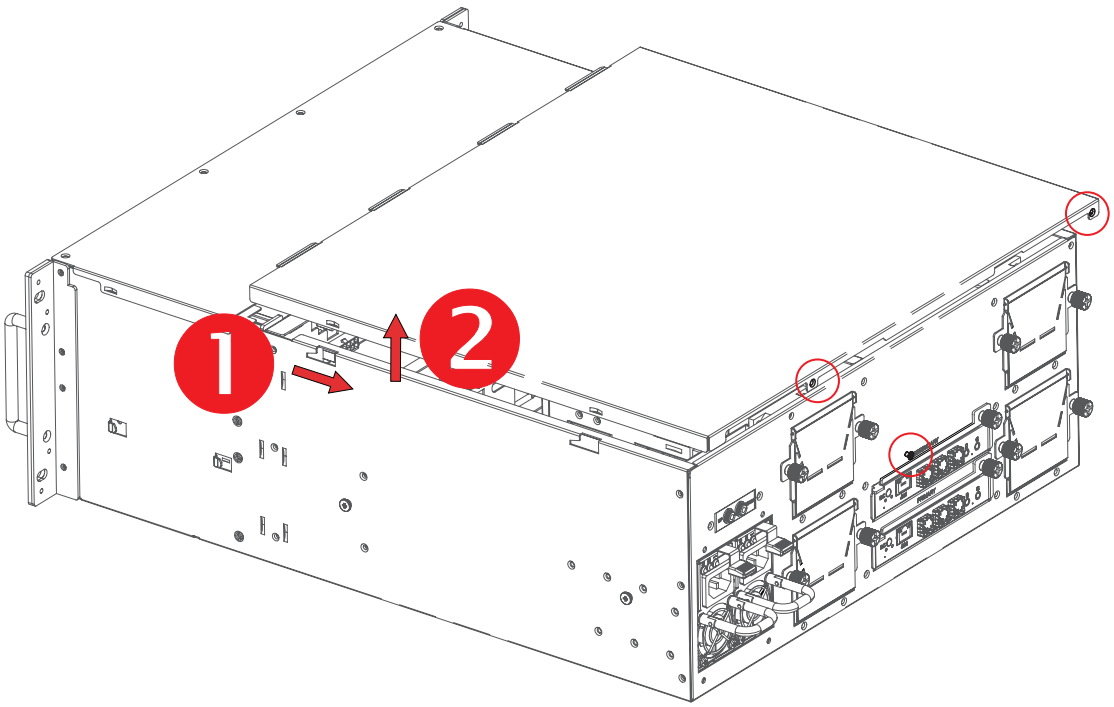
- 02h -power-supply
- 03h -cooling
- 04h -temperature-sensor
- 0Eh -enclosure
- 12h -Voltage
- 17h -array device

Chapter 2. Hardware Installation

This chapter provides detailed instructions on hardware installation.

2.1 Removing and Installing Top Cover

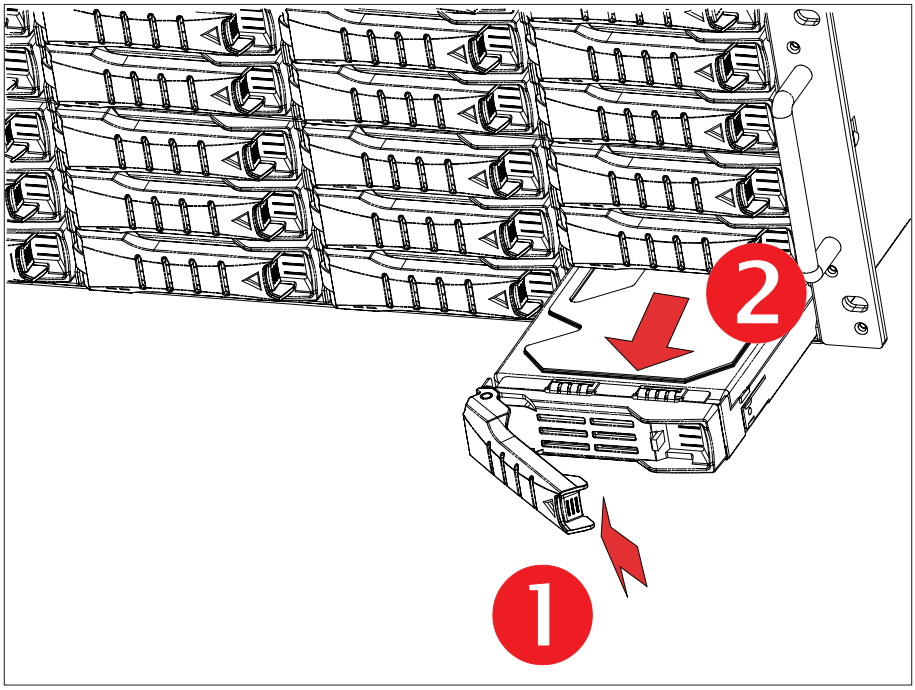
Loosen 2 screws on top cover. Take it out of the enclosure.



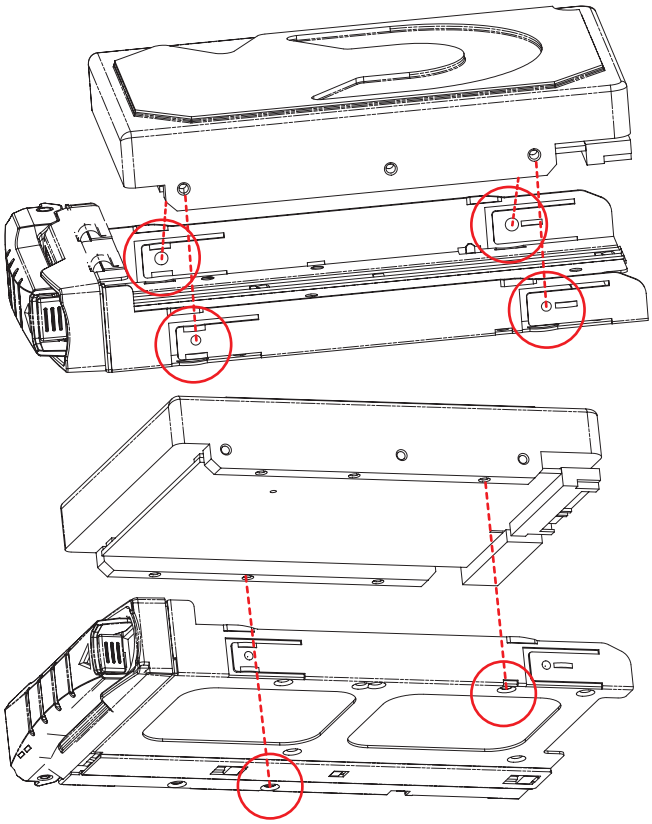
2.2 Removing/Installing a Drive Tray/ Hard Drive/ Drive Slot Map

2.2.1 Removing a Disk Drive

Release a drive tray by pressing the unlock button and pinching the lock lever slightly and pulling out the drive tray.



2.2.2 Installing a 3.5" Disk Drive

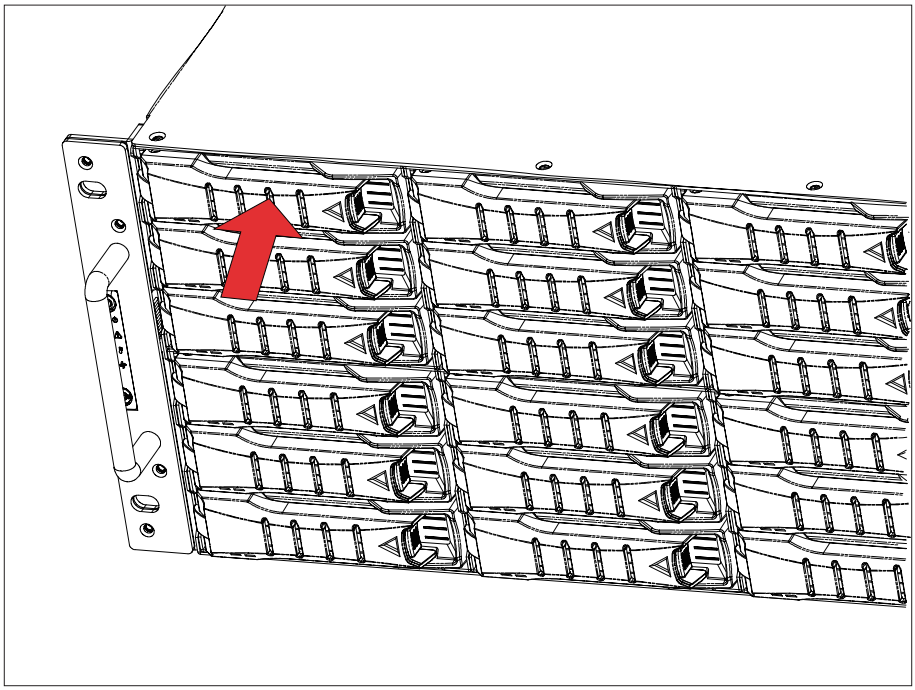


Directly place HDD into tool-less HDD tray until it snaps. Please check if the screw holes on HDD match the dimples on HDD tray.

HDD can also be screwed on HDD tray by fastening two screws as picture showed.

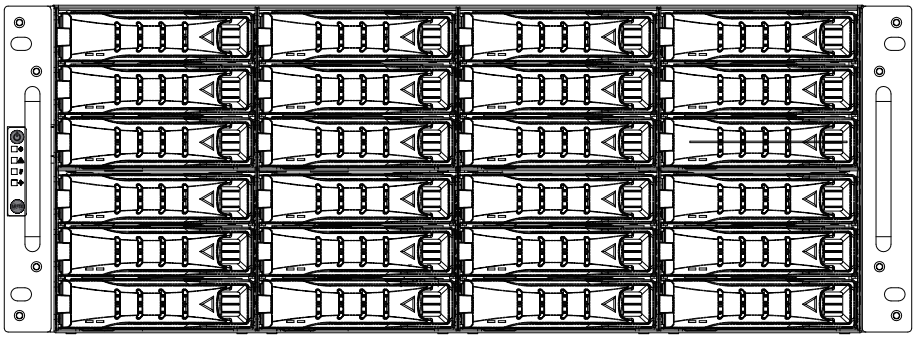
2.2.3 Installing a Hard Disk Drive Tray

Insert the drive carrier into its bay. Push the tray lever until it clicks. Make sure the drive tray is correctly secured in place when its front edge aligns with the bay edge.



2.2.4 Drive Slot Map

The drive slot map follows.



HBA card			
0	1	2	3
4	5	6	7
8	9	10	11
12	13	14	15
16	17	18	19
20	21	22	23

MegaRaid card			
1	2	3	4
5	6	7	8
9	10	11	12
13	14	15	16
17	18	19	20
21	22	23	24

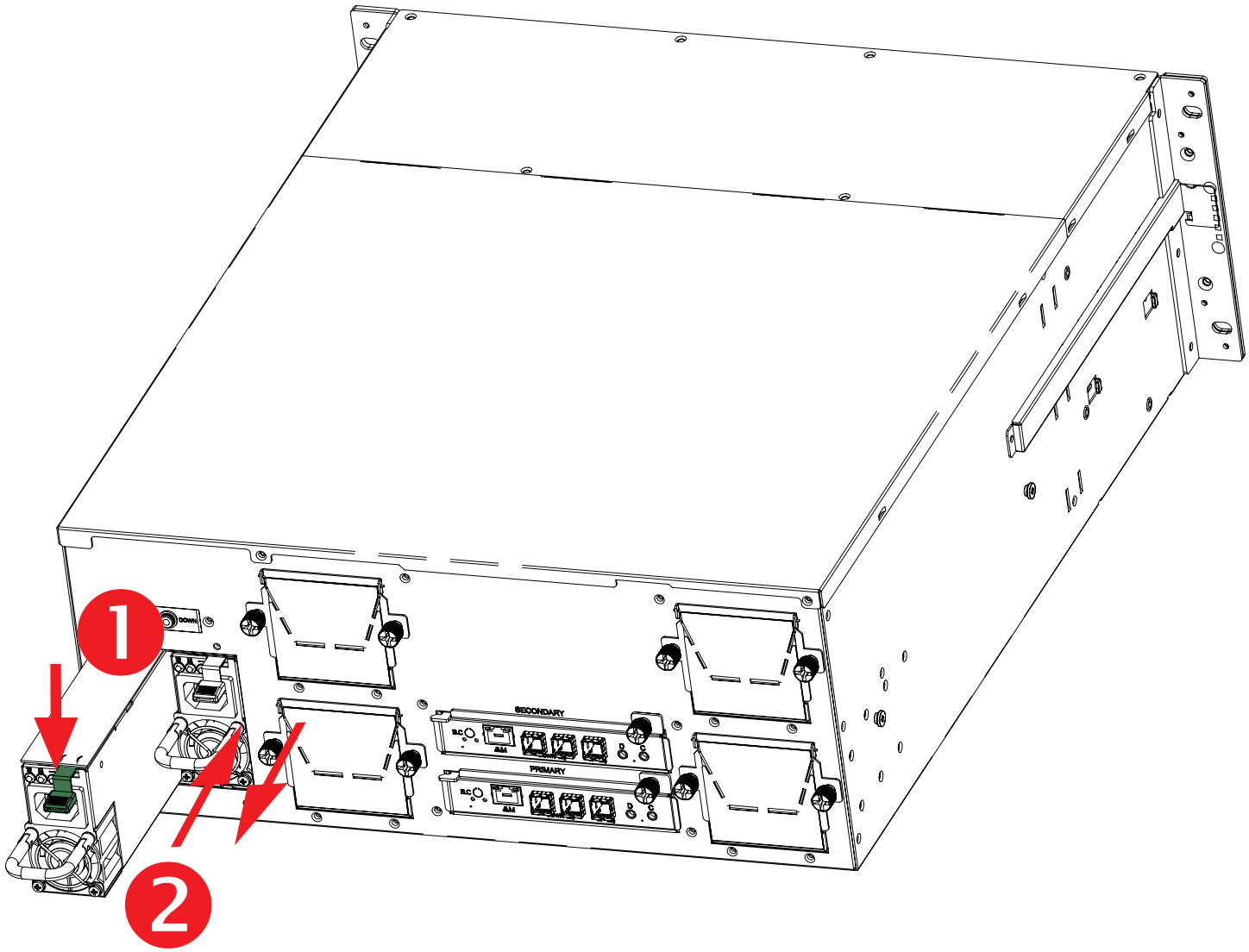
2.3 Removing and Installing a PSU Module

2.3.1 Removing a PSU module

- Remove power cables connected to the PSU module.
- Allow a minute for fan to spin down.
- Pushing the latch then hold the tray handle tab. Then pull the PSU module gently until it slides out of the JBOD.

2.3.2 Installing a PSU Module

- Slide in PSU module.
- Make sure the latch on the module is fully hooked onto the PSU housing.



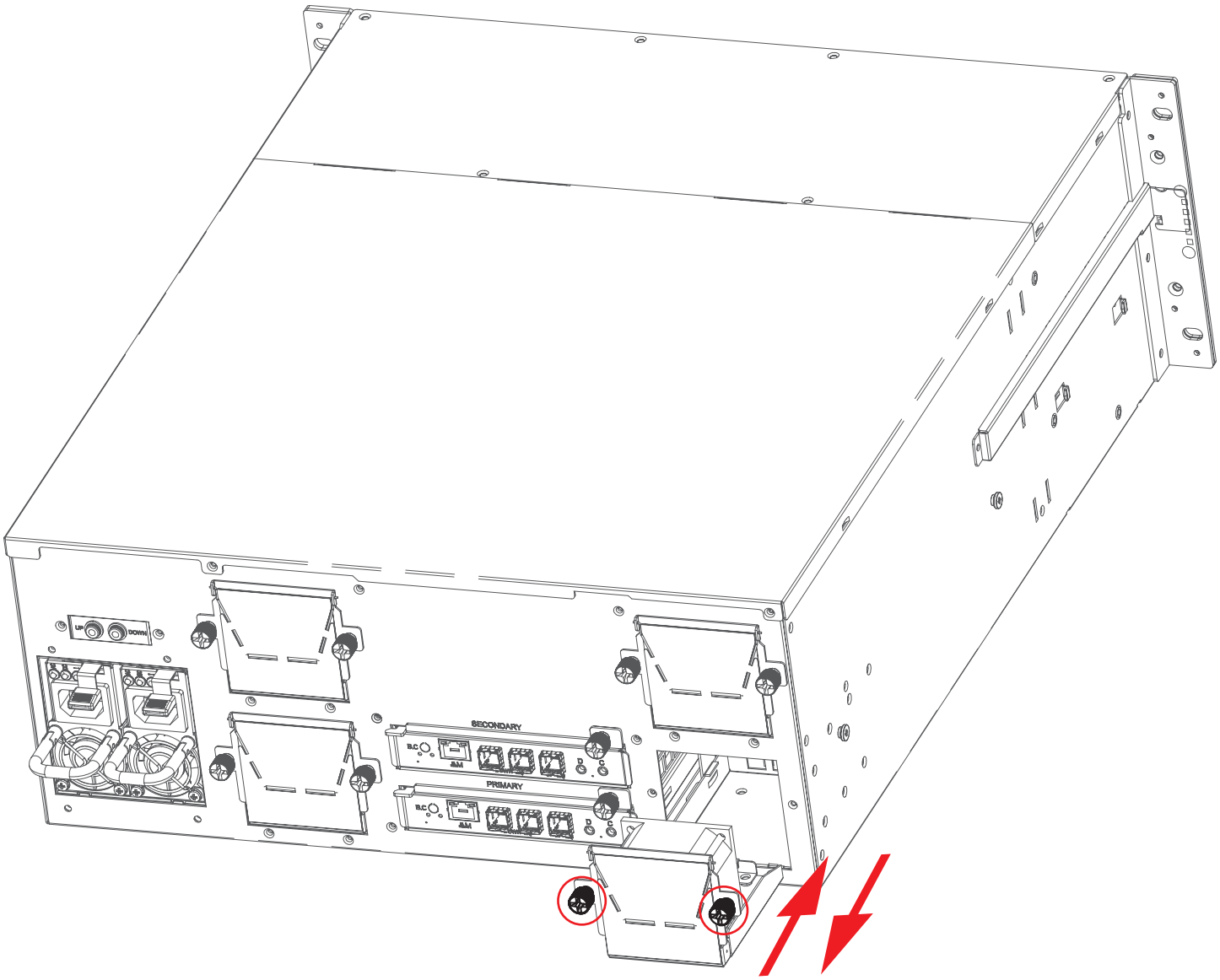
2.4 Removing and Installing a Fan Module

2.4.1 Removing a Fan module

- Loosen the thumb screws on each sides in front of fan module.
- Hold the fan module from both sides.
- Pull the fan module gently and firmly until it clears the enclosure chassis.

2.4.2Installing a Fan Module

- Align the fan module with the opening in the enclosure.
- Insert the fan module into JBOD.



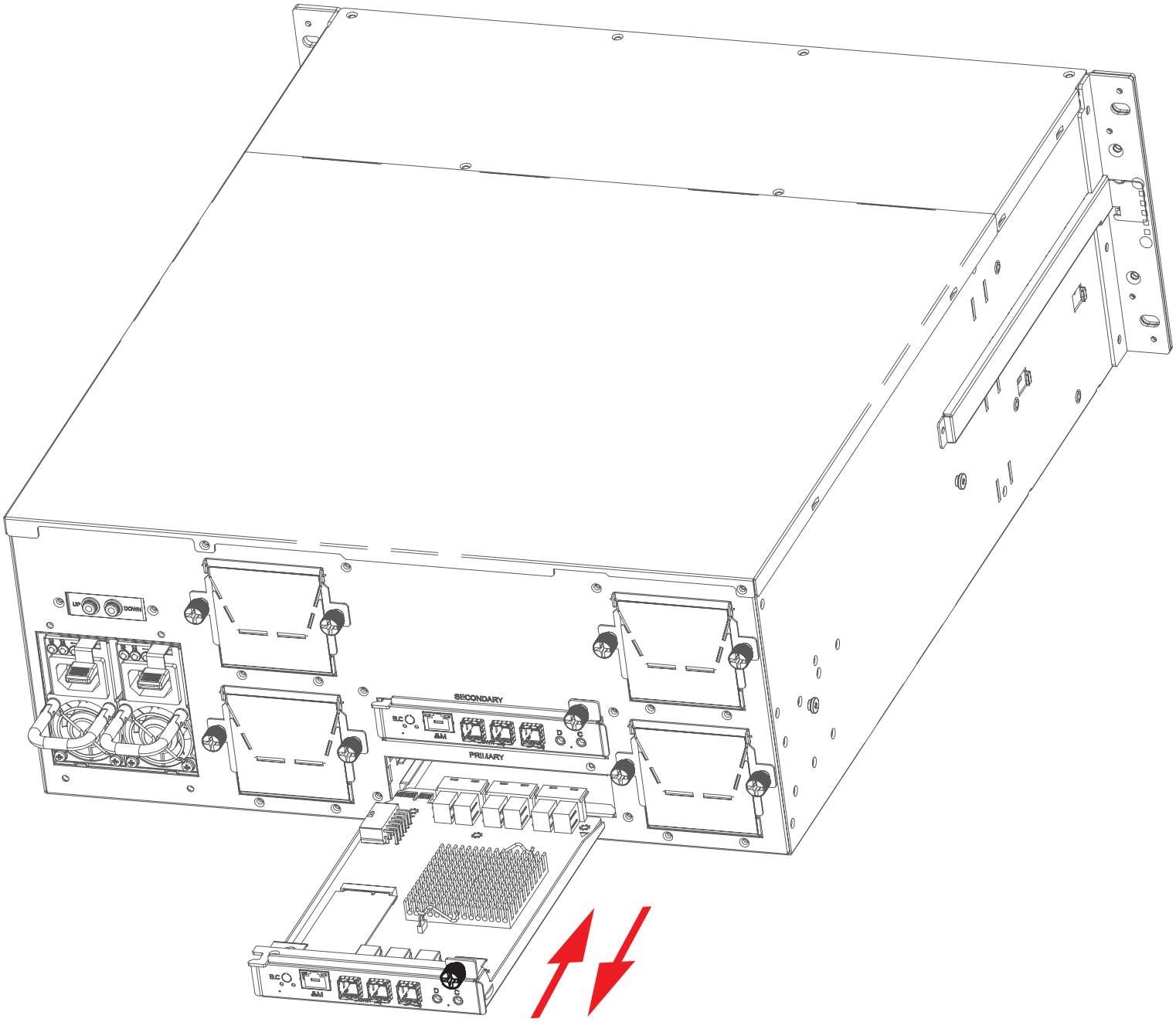
2.5 Removing and Installing External Expander Module

2.5.1 Removing an expander module

- Loosen the thumb screw to release expander tray lever.
- Hold the lever to pull the expander out of JBOD.

2.5.2 Installing an expander module

- Align the expander module with the opening in front of the enclosure, and insert it into the enclosure firmly.
- Close the lever and secure the retaining screw.



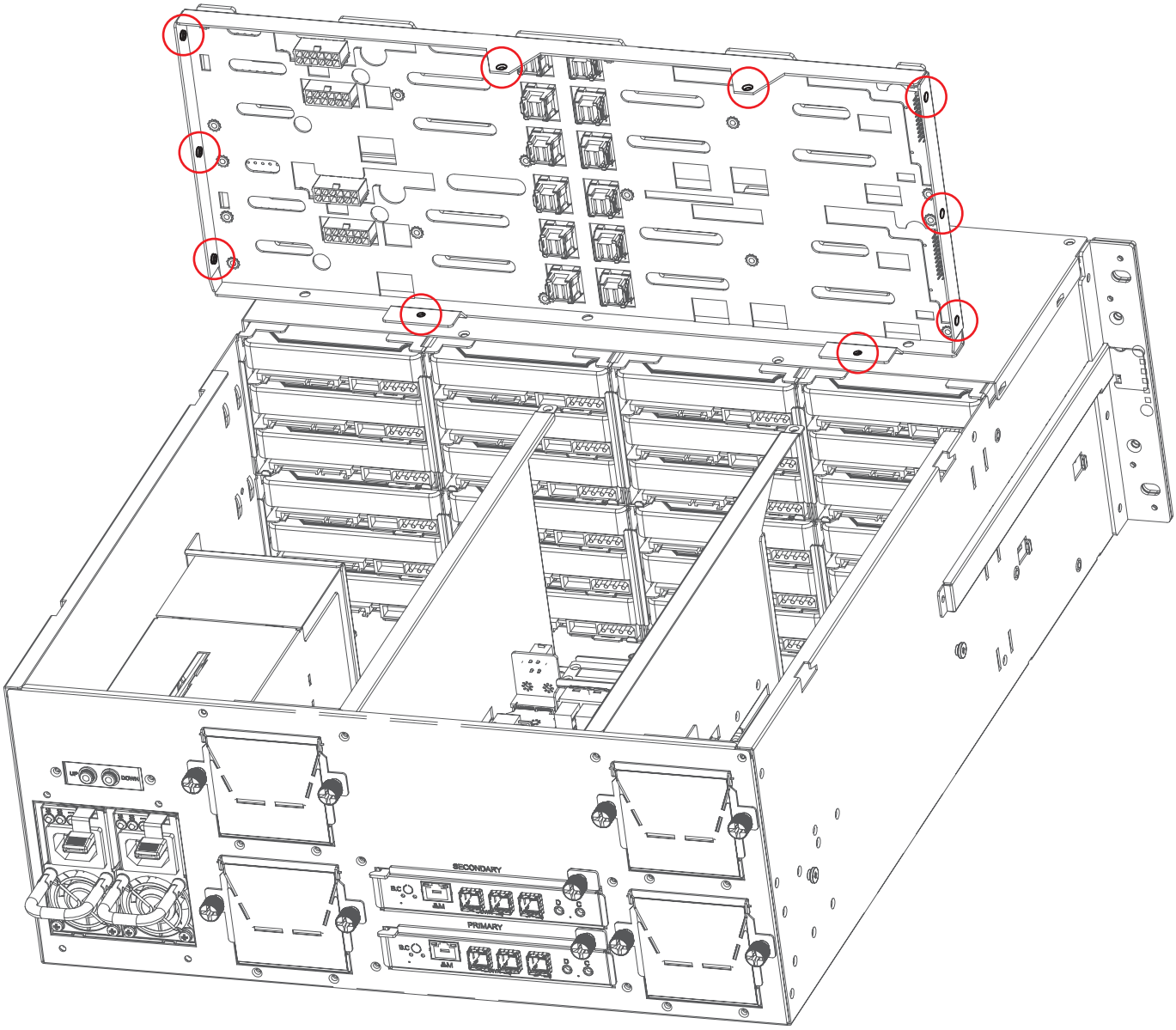
2.6 Removing and Installing the HDD backplane Module

2.6.1 Removing a HDD backplane module

- Unscrew 8pcs screws in the middle side of JBOD to release the HDD backplane module. (2* top side 2* bottom side *3 both side)
- Hold the backplane module to pull the backplane module out of JBOD.

2.6.2 Installing a HDD backplane module

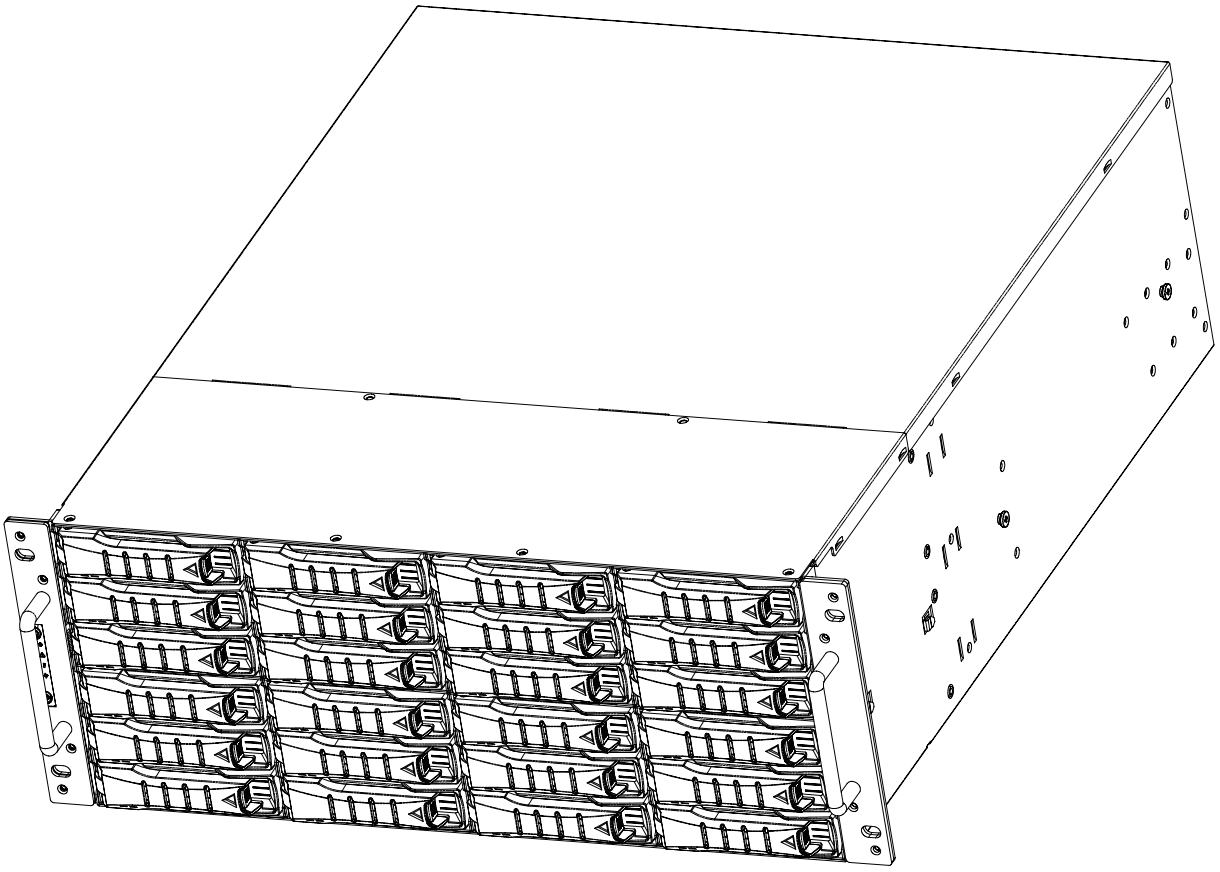
- Slide the HDD backplane module into JBOD.
- Secure the HDD backplane module onto the JBOD using the screws.

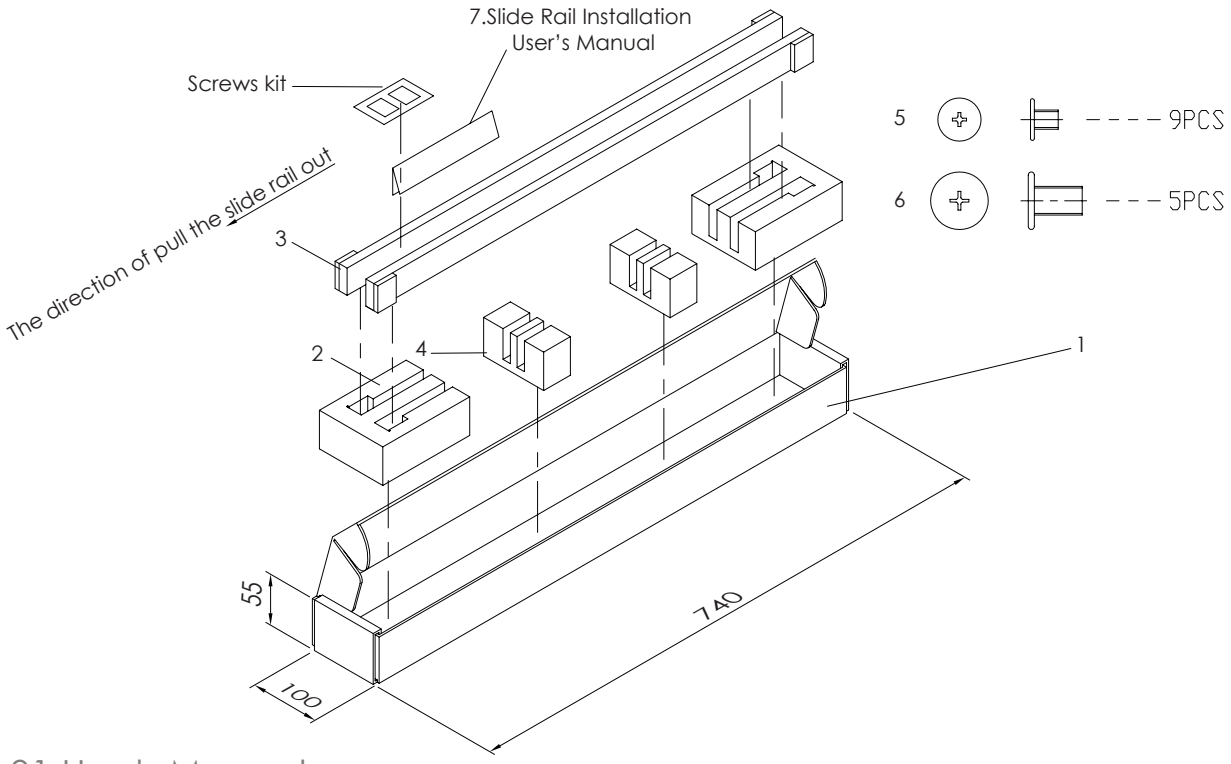


2.7 Installing Slide Rail /Adjuster Plate

2.7.1 Installing slide rail

To install the slide rail, please refer to the manual in the slide rail kit.

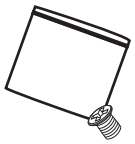




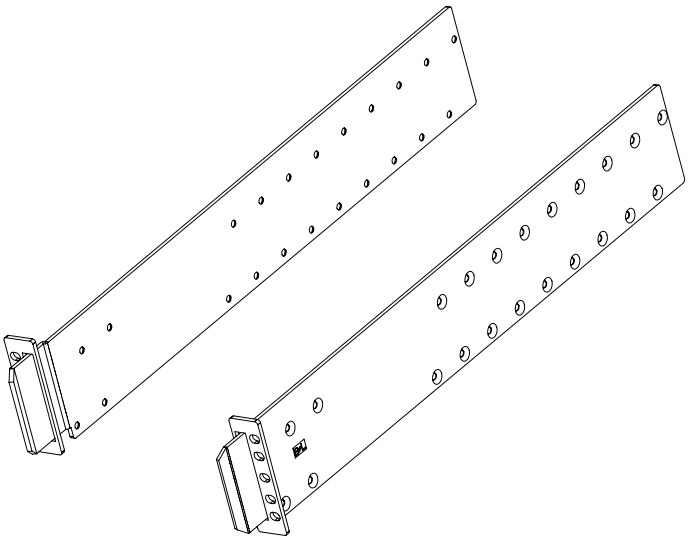
2.7.2 Installing the rear of JBOD onto the Rack

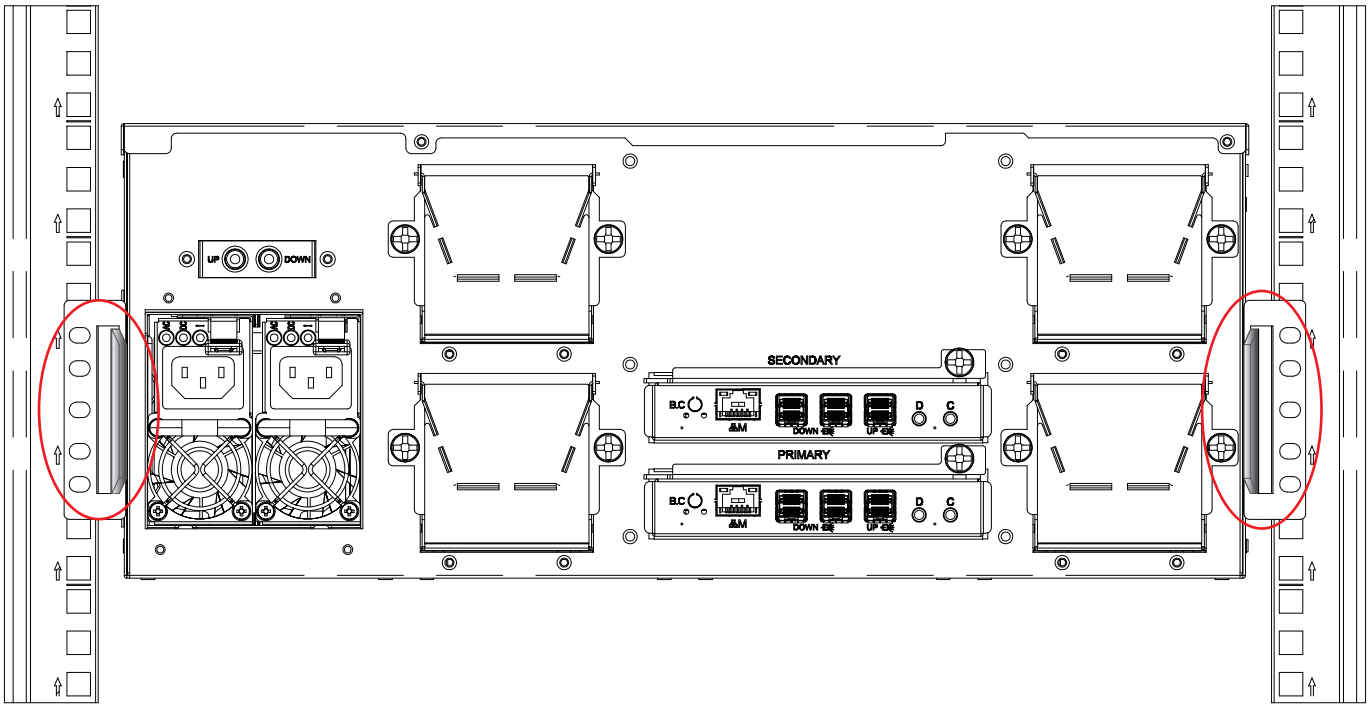
- Secure the adjuster plate on the rack using the screws.
- Insert the slide rail into the adjuster plate and make sure the slide rail is fully hooked into the adjuster plate.

M4 X 6L screws kit * 1sets (10pcs)



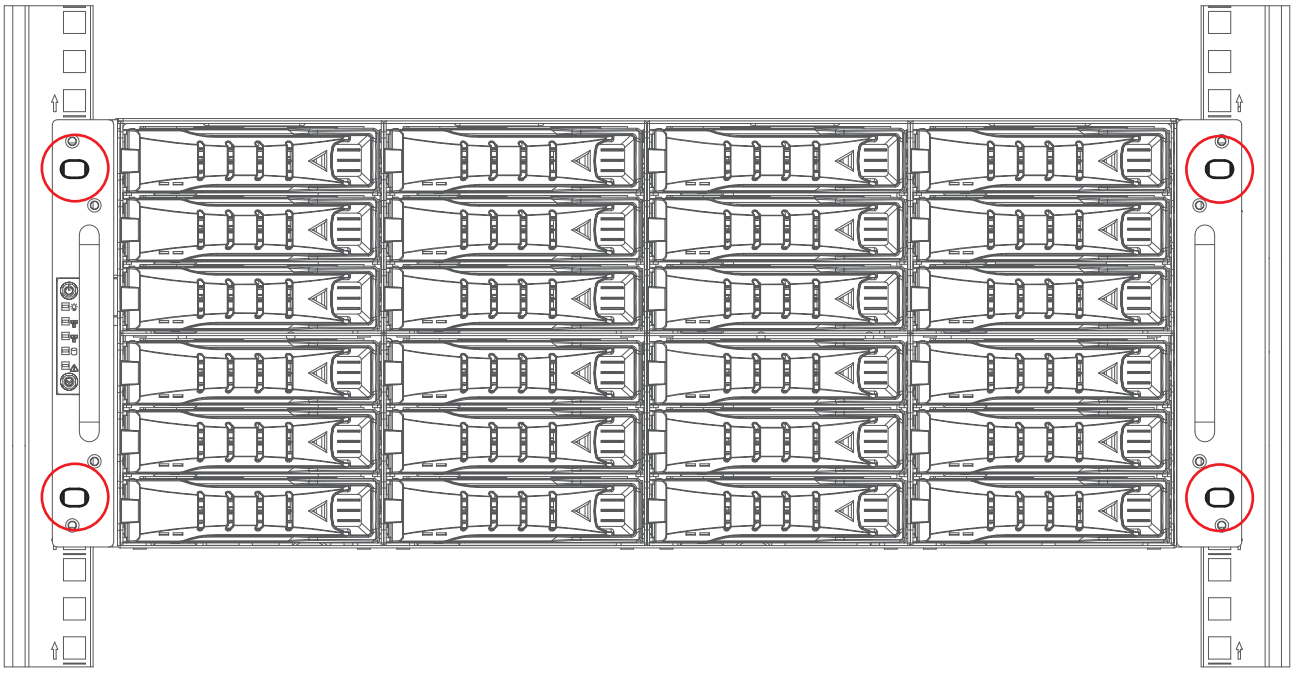
Adjuster plate *2 sets

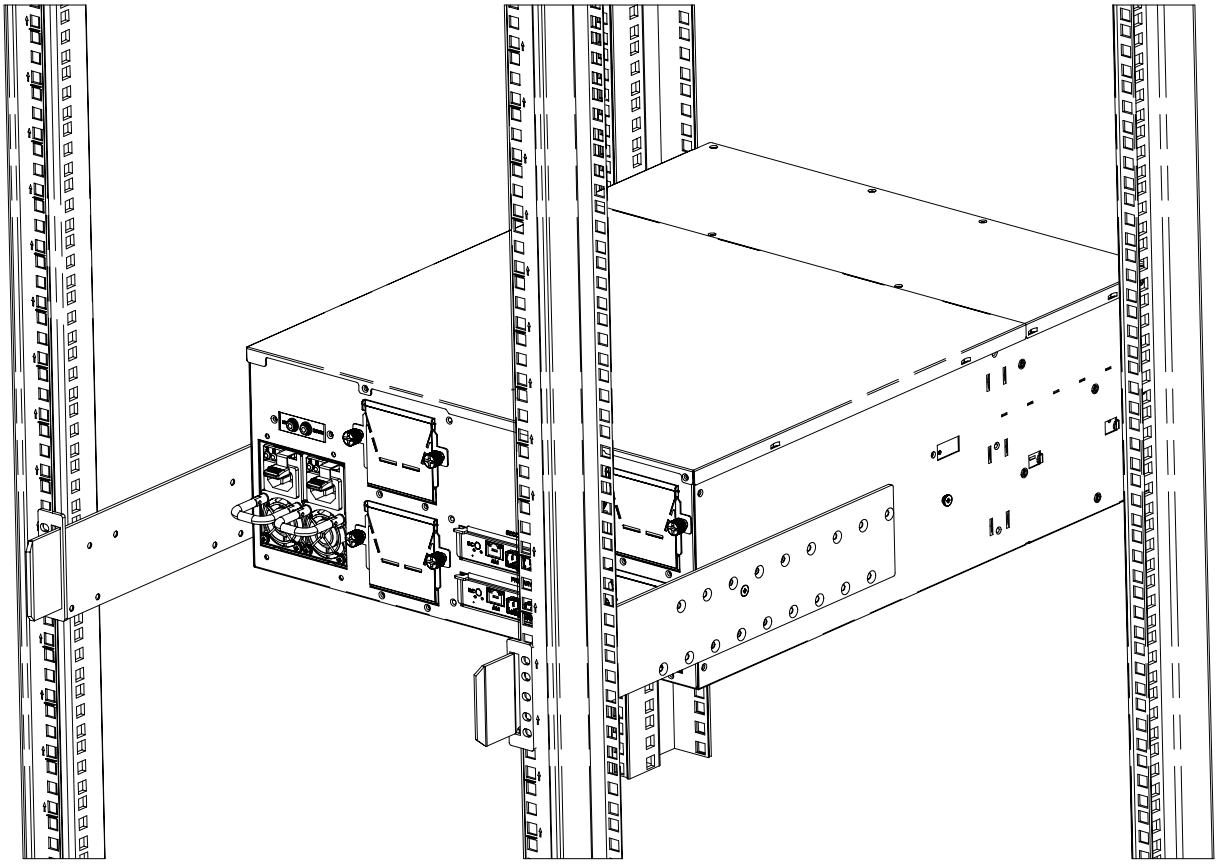




2.7.3 Installing the front of JBOD onto the rack

- Secure the JBOD on the rack using the screws.
- Complete installing JBOD.



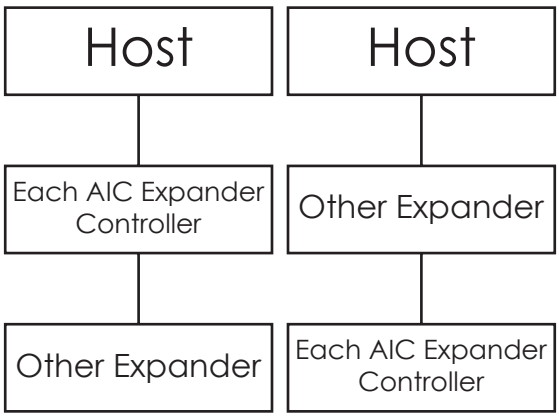


Chapter 3. Sub-System Configuration Setup

3.1 Supported Configuration On Host

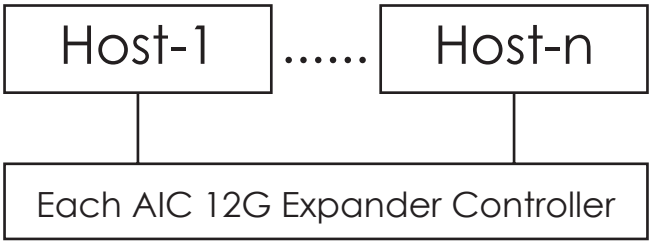
Supported Configuration

1.



2.

3.



NOTE :

TO HAVE MULTIPLE HOST ACCESS SUPPORT (THE HOST NUMBER CAN BE UP TO THE NUMBER OF WIDE PORTS ON EACH AIC 12G EXPANDER CONTROLLER), ONLY THE FOLLOWING DRIVES ARE SUPPORTED FOR SHARED ACCESS:

1. SAS DRIVE
2. SATA DRIVE WITH AN INTERPOSER WHICH PROVIDES SATA-TO-SAS CONVERSION

3.2 Utility Set up on Host

Step 1: Set up host RS232 connection

Set up RS232 connection application into your host as shown in the example process below.

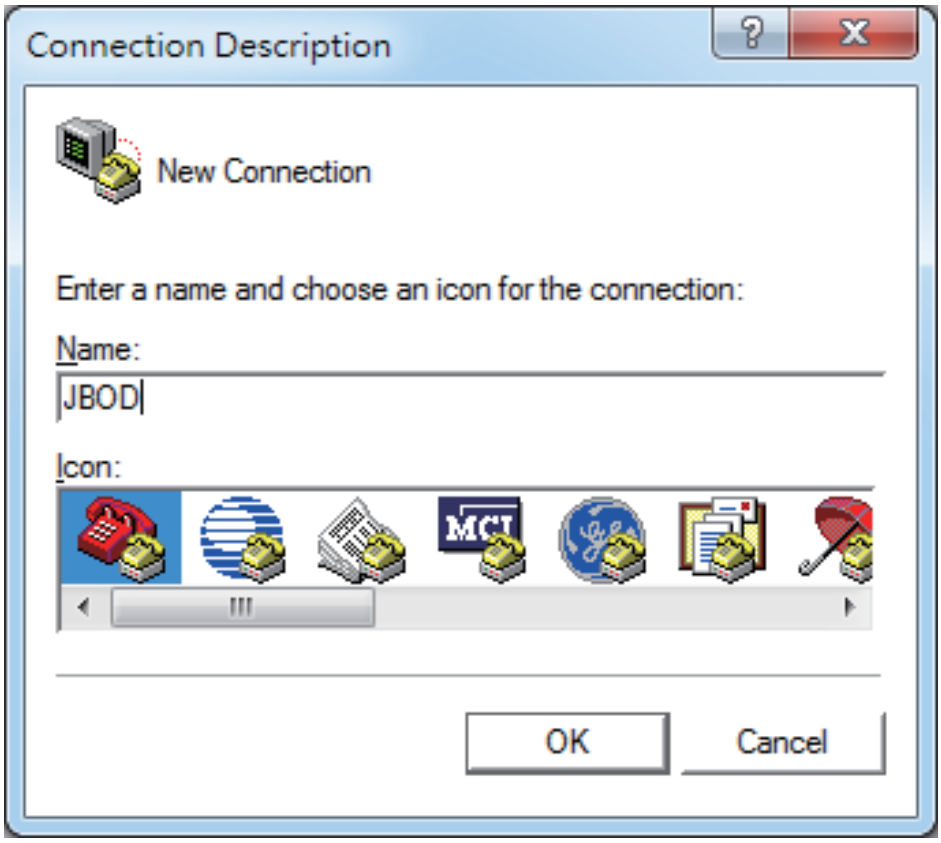
For example:

OS: Microsoft Windows Server 2008

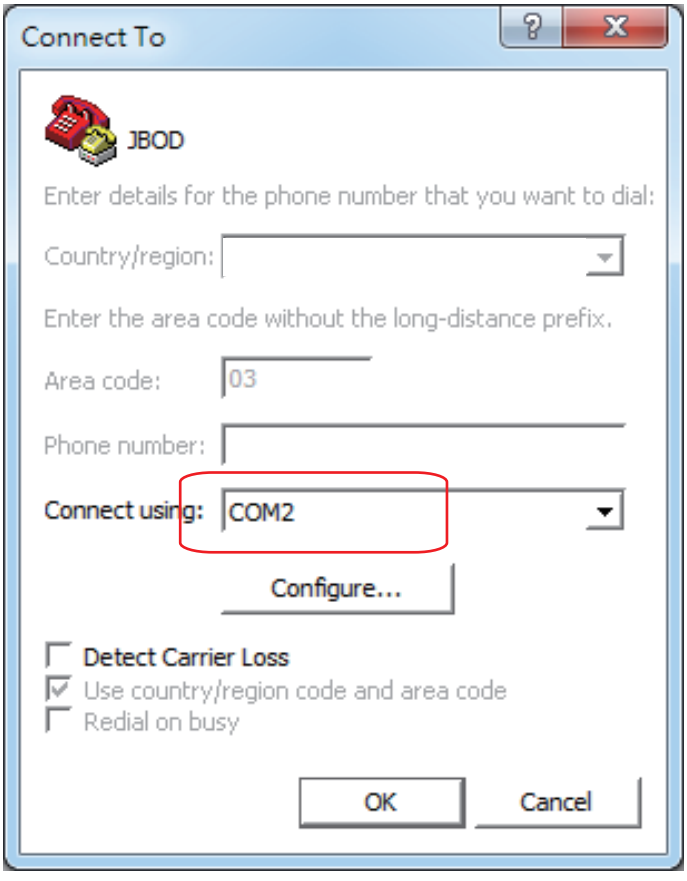
RS232 connection application: Hyperterminal

Step 2: Install HyperTrm.exe

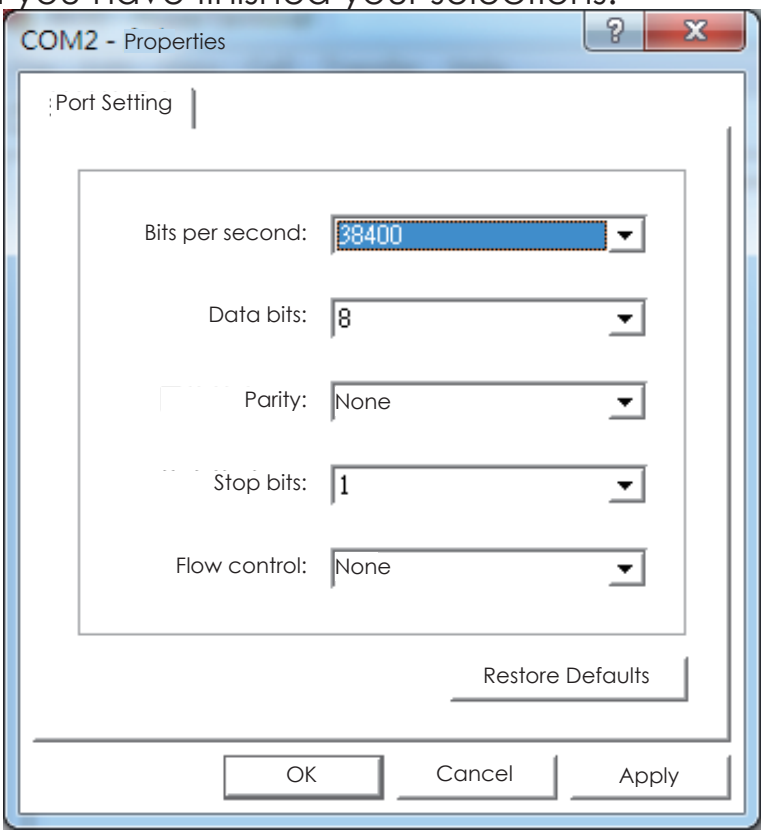
Step 3: Enter a new name for the icon in the field below and click OK.



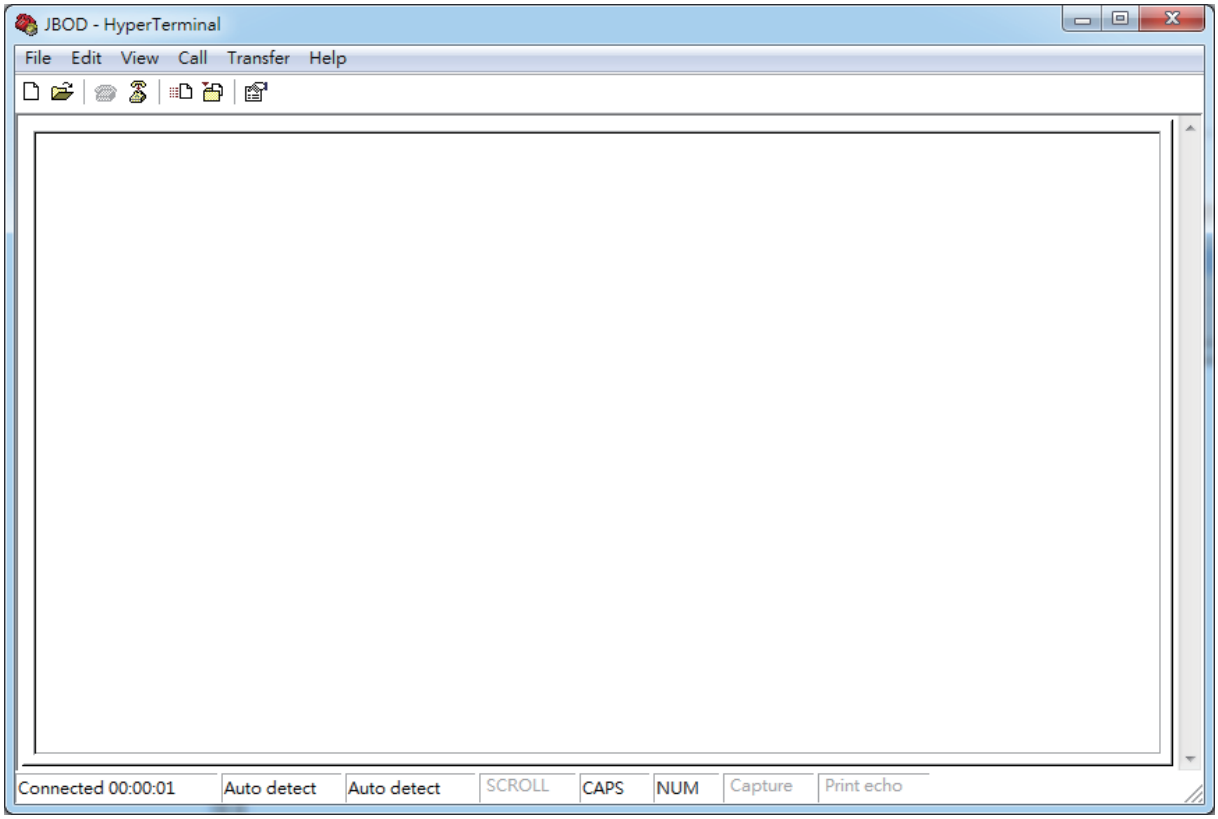
Step 4: Connect by using selecting an option in the drop down menu circled in red below (we selected COM2 in this example) and click OK.



Step 5: For "Bits per second", select 38400. For "Flow control", select: None. Click OK when you have finished your selections.

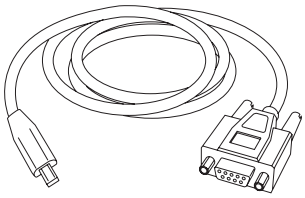


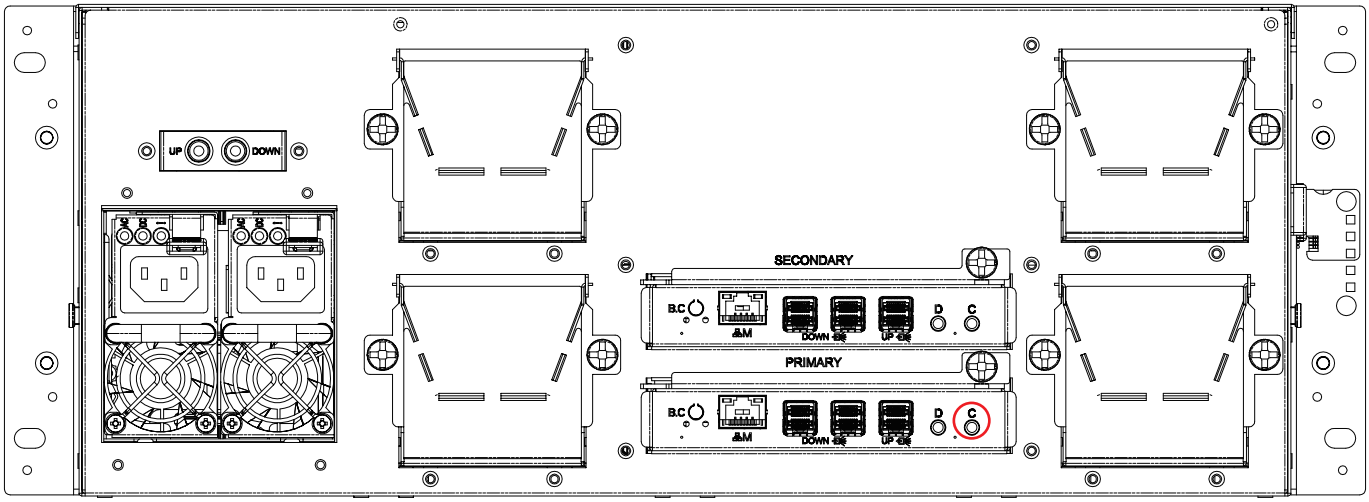
Step 6 : Set up is complete. The diagram below depicts what screen should displayed.



3.3 Connect Host to JBOD via RS232

Use a RS-232 DB9 cable to connect the console port of JBOD with host's PC COM port (see figures below for DB9 RS-232 cable and SAS expander COM port).





3.4 Configure command Line Interface Operation

3.4.1 How to enable/disable T10 zoning

The default T10 zoning configuration is off.

(A) Check the current zoning state

cmd> phyzone state

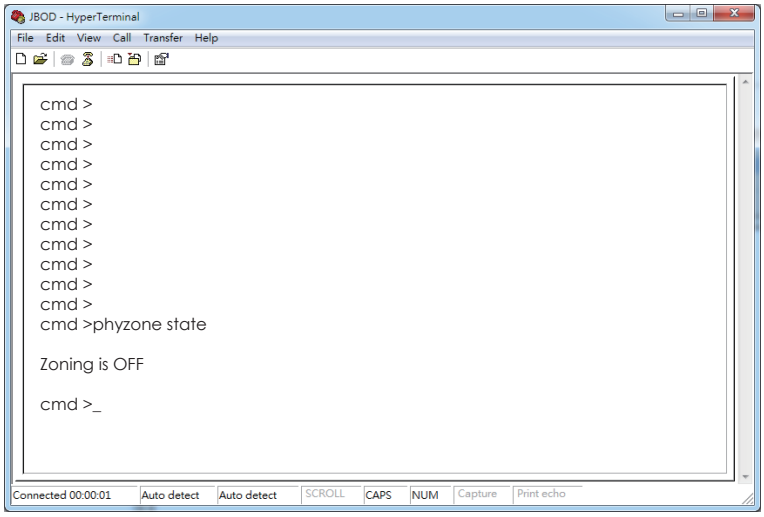
Zoning is OFF

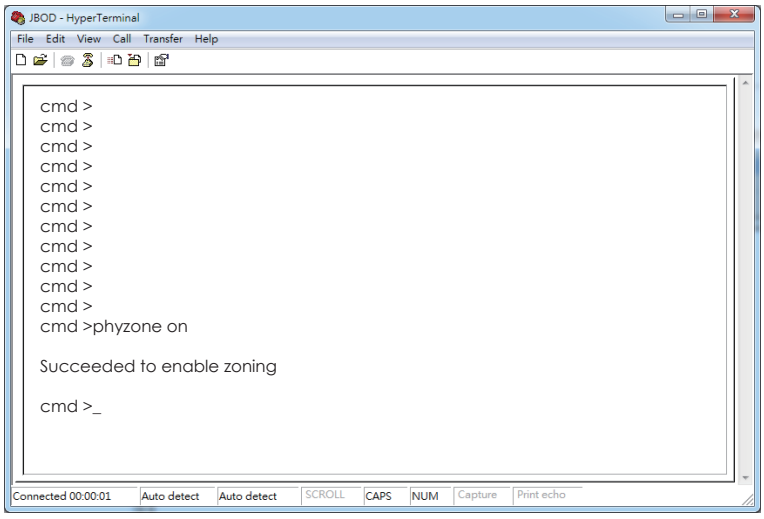
(B) Enable zoning

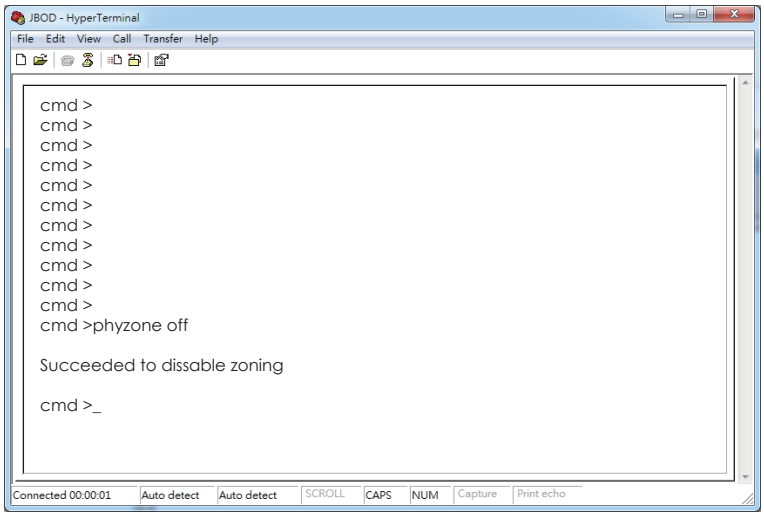
cmd> phyzone on

(C) Disable zoning

cmd> phyzone off







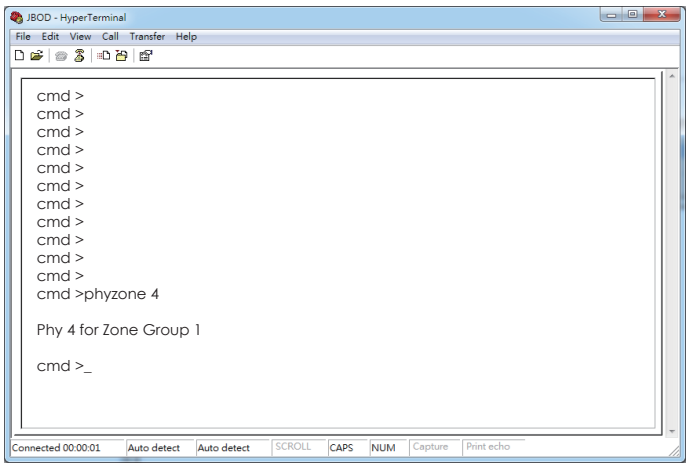
3.4.2 How to configure T10 zoning

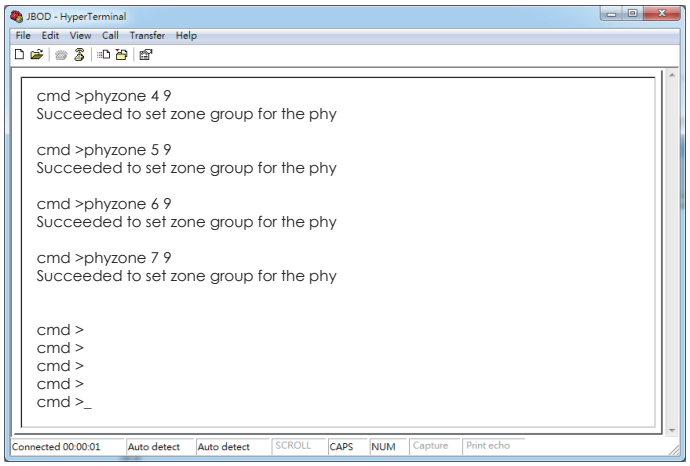
After enabling T10 zoning, five predefined groups are Group1, Group8, Group9, Group10, and Group11.
Each PHY should be in one of the five groups, and all PHYs in a wide port should be in the same group.
Each PHY in Group1 can access any PHY in other groups, and vice versa.
Each PHY in Group8 cannot access any PHY in Group9, and vice versa.

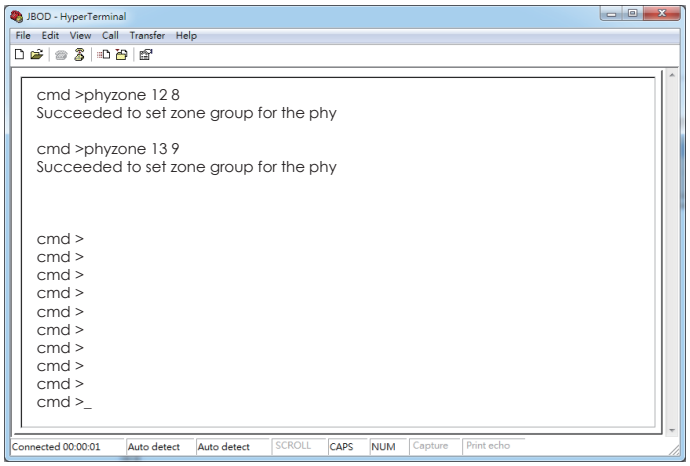
The command syntax is "phyzone phy_index group". The following example shows how to setup one drive accessed only the first port and another drive accessed only by the second port.

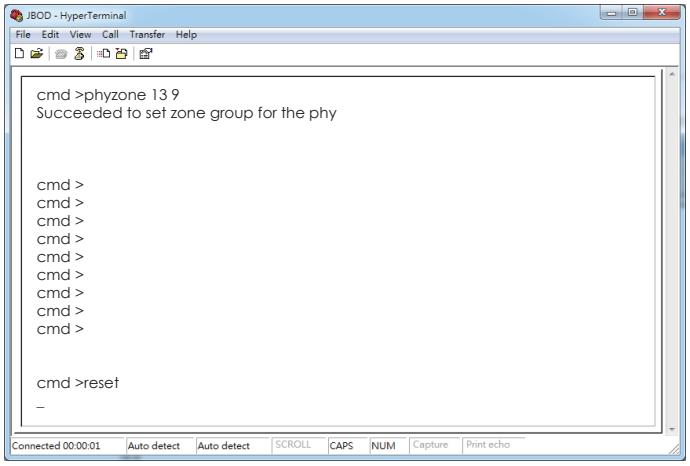
The configuration for the example is
(A) PHY0 - PHY3 for the first wide port
(B) PHY4 - PHY7 for the second wide port
(C) PHY12 - PHY35 for drive

Step 1: Read the current group for PHY4
cmd> phyzone 4
Phy 4 for Zone Group 1
Step 2: Assign the second port (PHY4 - PHY7) for Group9
cmd> phyzone 4 9
cmd> phyzone 5 9
cmd> phyzone 6 9
cmd> phyzone 7 9
Step 3: Assign the first port (PHY0 - PHY3) for Group8
cmd> phyzone 0 8
cmd> phyzone 1 8
cmd> phyzone 2 8
cmd> phyzone 3 8
Step 4: Assign the drive on PHY12 to be accessed only by the first port instead of the second port
cmd> phyzone 12 8
Step 5: Assign the drive on PHY13 to be accessed only by the second port instead of the first port
cmd> phyzone 13 9
Step 6: Reset


JBOD - HyperTerminal
File Edit View Call Transfer Help
cmd >
cmd >
cmd >
cmd >
cmd >
cmd >
cmd >
cmd >
cmd >
cmd >
cmd >
cmd >phyzone 4
Phy 4 for Zone Group 1
cmd >_
Connected 00:00:01
Auto detect
Auto detect
SCROLL
CAPS
NUM
Capture
Print echo

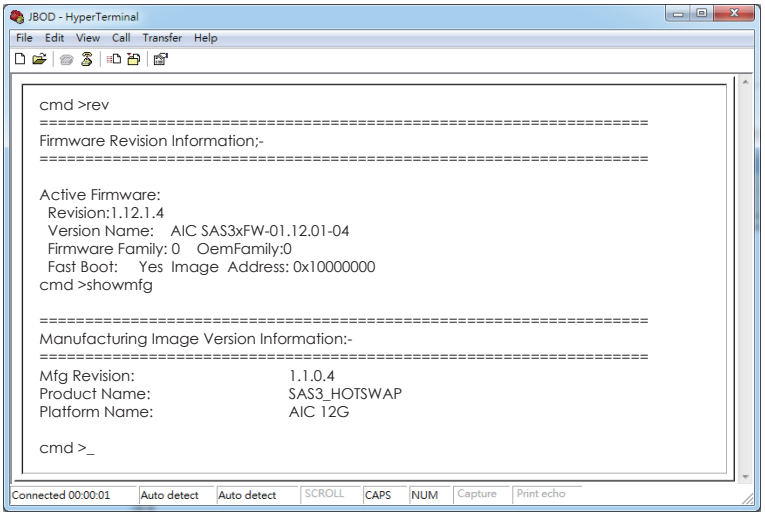

JBOD - HyperTerminal
File Edit View Call Transfer Help
cmd >phyzone 4 9
Succeeded to set zone group for the phy
cmd >phyzone 5 9
Succeeded to set zone group for the phy
cmd >phyzone 6 9
Succeeded to set zone group for the phy
cmd >phyzone 7 9
Succeeded to set zone group for the phy
cmd >
cmd >
cmd >
cmd >
cmd >_
Connected 00:00:01
Auto detect
Auto detect
SCROLL
CAPS
NUM
Capture
Print echo

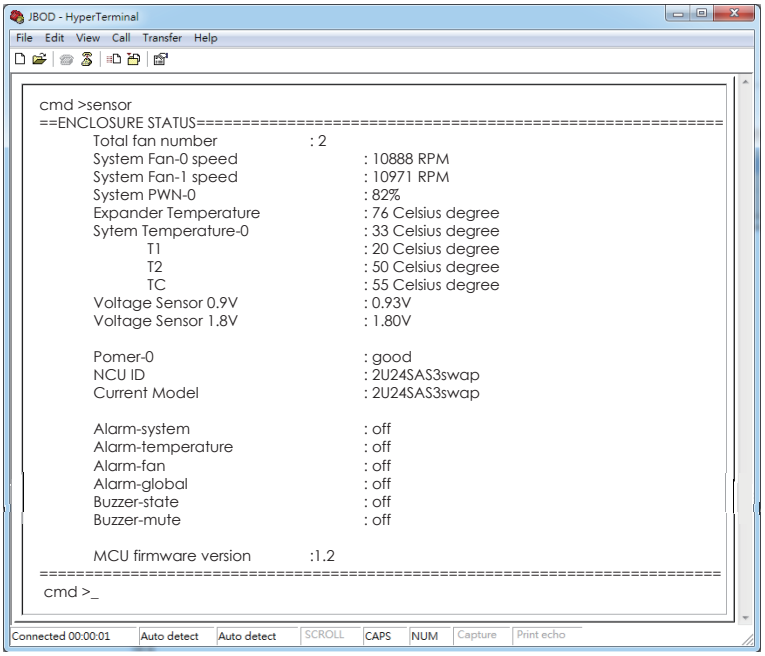

JBOD - HyperTerminal
File Edit View Call Transfer Help
cmd >phyzone 12 8
Succeeded to set zone group for the phy
cmd >phyzone 13 9
Succeeded to set zone group for the phy
cmd >
cmd >
cmd >
cmd >
cmd >
cmd >
cmd >
cmd >
cmd >
cmd >_
Connected 00:00:01
Auto detect
Auto detect
SCROLL
CAPS
NUM
Capture
Print echo


JBOD - HyperTerminal
File Edit View Call Transfer Help
cmd >phyzone 13 9
Succeeded to set zone group for the phy
cmd >
cmd >
cmd >
cmd >
cmd >
cmd >
cmd >
cmd >
cmd >
cmd >reset
_
Connected 00:00:01
Auto detect
Auto detect
SCROLL
CAPS
NUM
Capture
Print echo

3.4.3 How to get all revisions in AIC SAS 12G Expander

(A) Expander firmware revision
cmd> rev
(B) Expander configuration revision
cmd> showmfg
(C) MCU firmware for managing sensors
cmd> sensor




JBOD - HyperTerminal
File Edit View Call Transfer Help
cmd >sensor
==ENCLOSURE STATUS==
Total fan number : 2
System Fan-0 speed : 10888 RPM
System Fan-1 speed : 10971 RPM
System PWN-0 : 82%
Expander Temperature : 76 Celsius degree
Sytem Temperature-0 : 33 Celsius degree
T1 : 20 Celsius degree
T2 : 50 Celsius degree
TC : 55 Celsius degree
Voltage Sensor 0.9V : 0.93V
Voltage Sensor 1.8V : 1.80V
Pomer-0 : good
NCU ID : 2U24SAS3swap
Current Model : 2U24SAS3swap
Alarm-system : off
Alarm-temperature : off
Alarm-fan : off
Alarm-global : off
Buzzer-state : off
Buzzer-mute : off
MCU firmware version :1.2
cmd >_
Connected 00:00:01 Auto detect Auto detect SCROLL CAPS NUM Capture Print echo

3.4.4 How to configure temperature sensor

Four temperature settings in Celsius are T1, T2, warning threshold, and alarm (critical) threshold.

(A) Get the current temperature settings

cmd> temperature

Temperature in Celsius (t1=20 C, t2=55 C, warning=50 C, alarm=55 C)

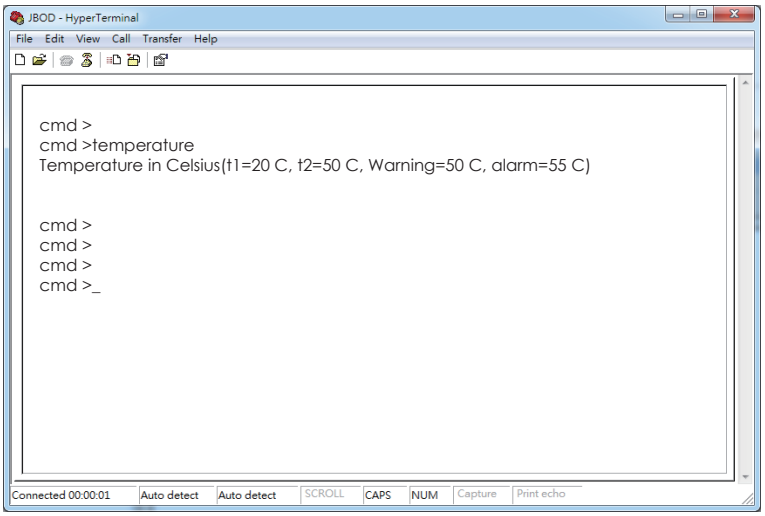
(B) Set temperature with new T1=18 C, T2=52 C, warning threshold=48 C, and alarm threshold=54 C. The new setting will take effect after reset.

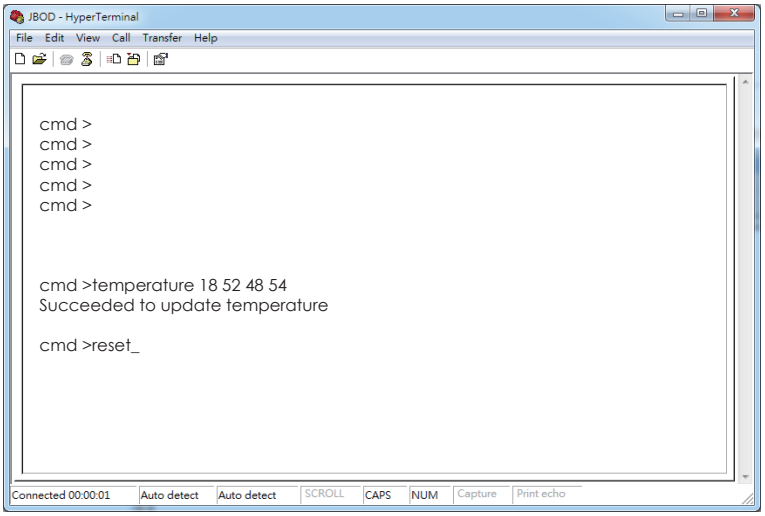
cmd> temperature 18 52 48 54

cmd> reset

(C) We also take expander temperature into consideration, and the temperature parameters for expander are fixed. Expander temperature parameters: T1=40, T2=86 (max 115*0.75) ,and no warning or alarm.

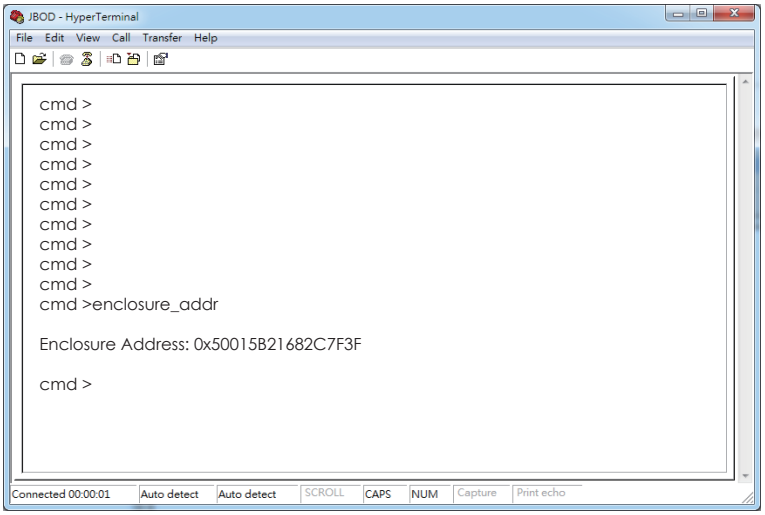
The smart fan feature will use the highest PWM output which is calculated from system and expander temperature parameters.

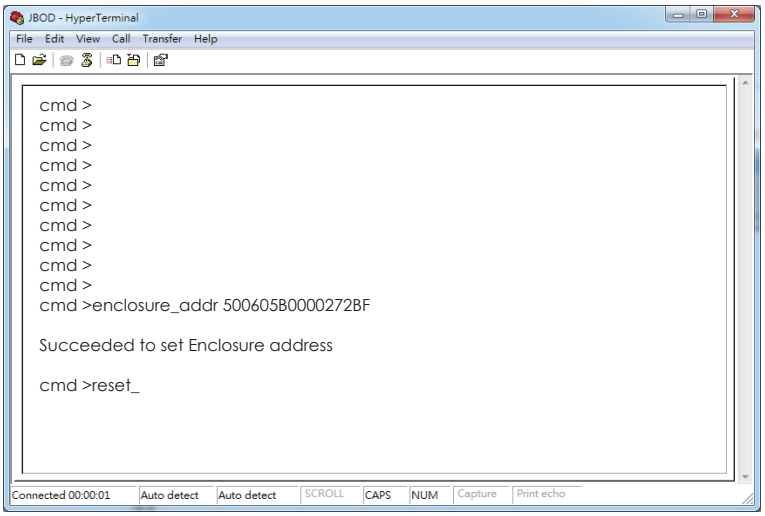




3.4.5 How to configure enclosure address

(A) Get the current enclosure address
cmd> enclosure_addr
Enclosure Address: 0x500605B0000272BF
(B) Set the enclosure address with 0x500605B0000272BF. The new setting will take effect after reset.
cmd> enclosure_addr 500605B0000272BF
cmd> reset

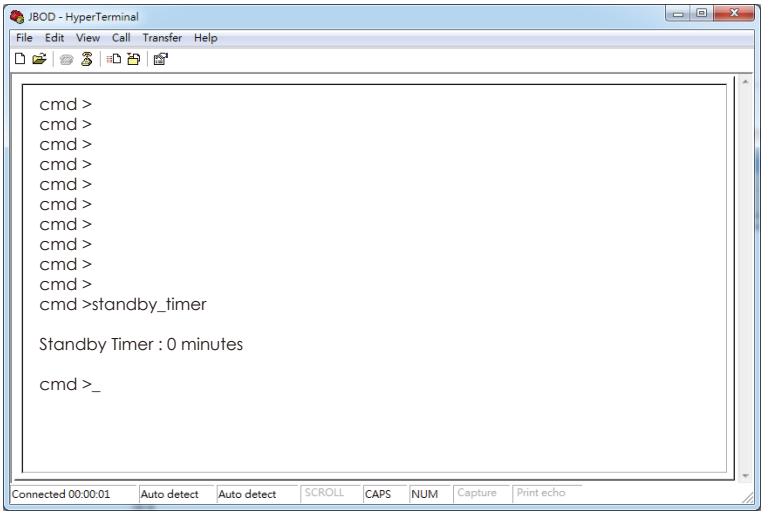


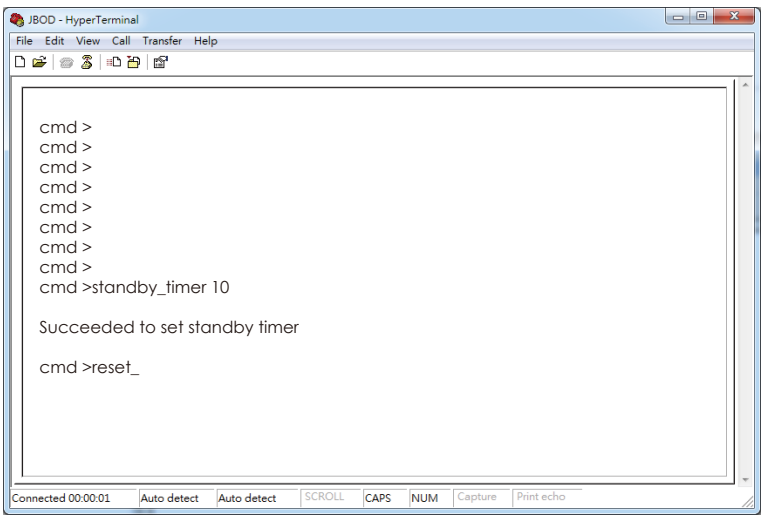


3.4.6 How to configure standby timer for all disk drives

This feature is applicable for SAS/SATA drives. Standby timer is in units of minutes. Setting standby timer with 0 minute disables this feature.

(A) Get current standby timer
cmd> standby_timer
Standby Timer : 0 minutes
(B) Set the standby timer with 10 minutes. The new setting will take effect after reset.
cmd> standby_timer 10
cmd> reset





3.4.7 How to configure wide port checker

This feature is applicable for SAS drives instead of SATA drives. If there is no connection with any active SAS initiator by checking all wide ports, AIC Expander Controller stops all attached SAS drives to save power consumption of SAS drives. Otherwise, AIC Expander Controller starts all attached SAS drives to provide drive access service to any active SAS initiator.

(A) Get the current state of wide port checker

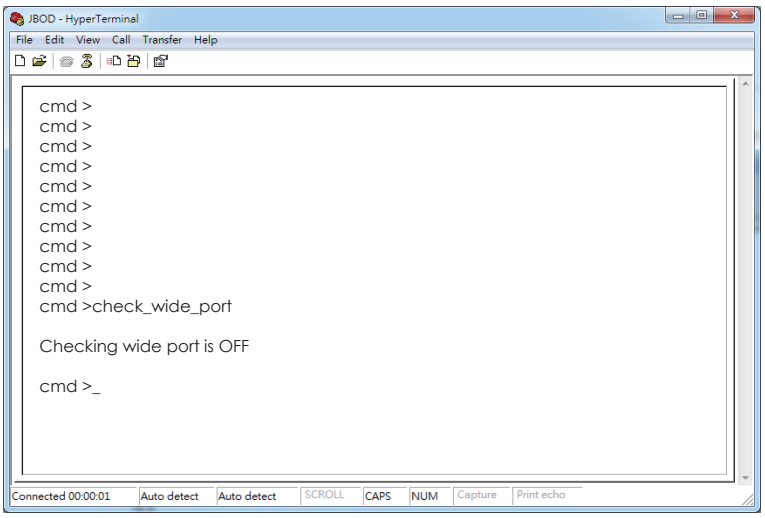
```
cmd> check_wide_port
Checking wide port is OFF
```

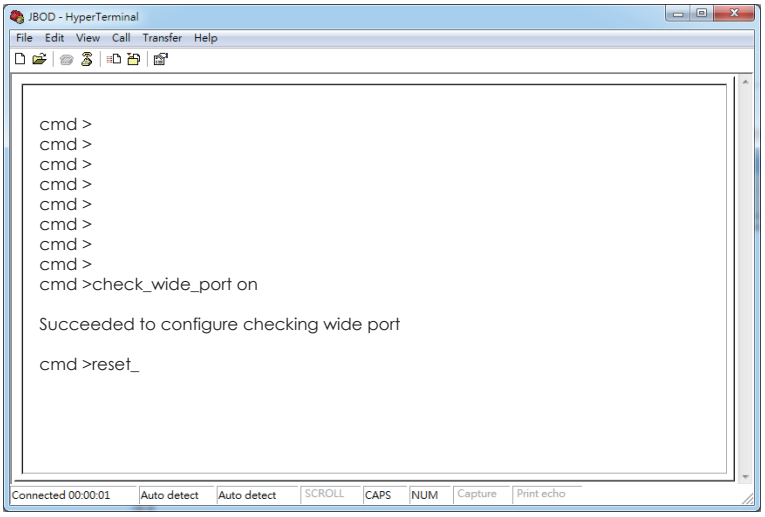
(B) Enable checking wide port. The new setting will take effect after reset.

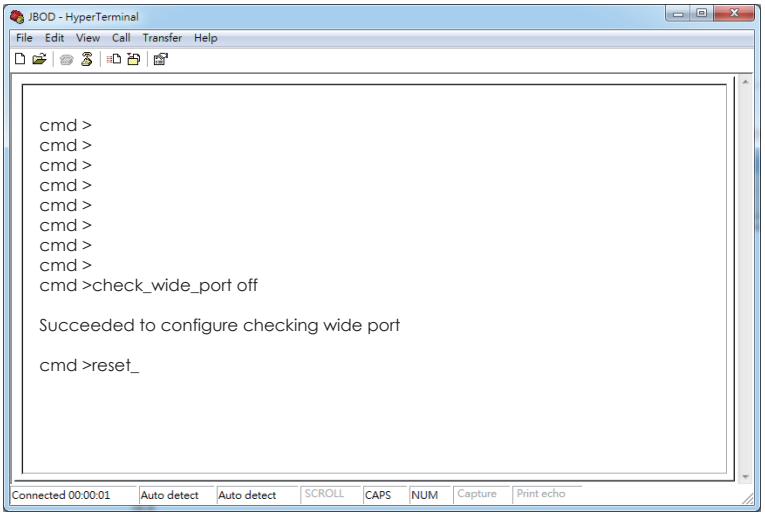
```
cmd> check_wide_port on
cmd> reset
```

(C) Disable checking wide port. The new setting will take effect after reset.

```
cmd> check_wide_port off
cmd> reset
```

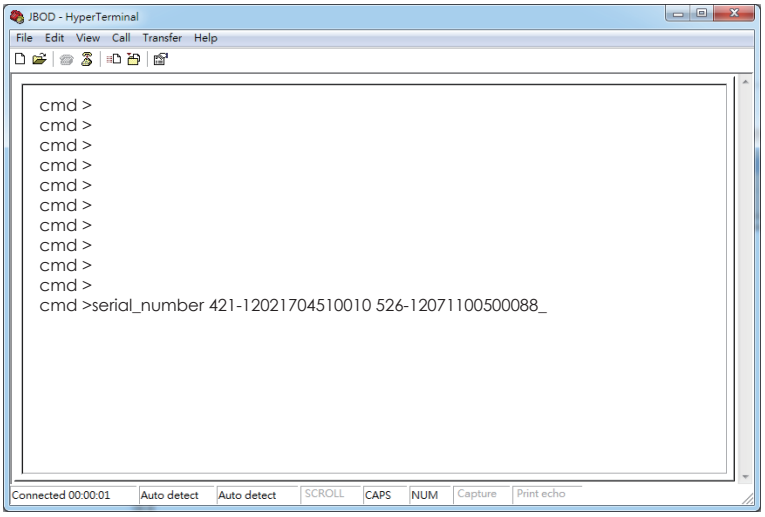

JBOD - HyperTerminal
File Edit View Call Transfer Help
cmd >
cmd >
cmd >
cmd >
cmd >
cmd >
cmd >
cmd >
cmd >
cmd >
cmd >check_wide_port
Checking wide port is OFF
cmd >_
Connected 00:00:01
Auto detect
Auto detect
SCROLL
CAPS
NUM
Capture
Print echo


JBOD - HyperTerminal
File Edit View Call Transfer Help
cmd >
cmd >
cmd >
cmd >
cmd >
cmd >
cmd >
cmd >
cmd >check_wide_port on
Succeeded to configure checking wide port
cmd >reset_
Connected 00:00:01
Auto detect
Auto detect
SCROLL
CAPS
NUM
Capture
Print echo


JBOD - HyperTerminal
File Edit View Call Transfer Help
cmd >
cmd >
cmd >
cmd >
cmd >
cmd >
cmd >
cmd >
cmd >check_wide_port off
Succeeded to configure checking wide port
cmd >reset_
Connected 00:00:01
Auto detect
Auto detect
SCROLL
CAPS
NUM
Capture
Print echo

3.4.8 How to configure serial number

(A) Get the current serial number
cmd> serial_number
Expander number: 421-12021704510010 or Expander number: 421-12021704510010 Enclosure number: 526-12071100500088
(B) Only set Expander serial number with 421-12021704510010.
cmd> serial_number 421-12021704510010
(C) Set both of Expander serial number (421-12021704510010) and Enclosure serial number (526-12071100500088).
cmd> serial_number 421-12021704510010 526-12071100500088



3.4.9 How to turn on/off the power of a drive slot

The "DEVICE OFF" for a drive slot is defined in the bit4, byte3 of the "Array Device Slot control element" in the SES-3 specification. Set the bit to turn off a slot power, and vice versa. Please install a software package "sg3_utils" on your host computer, and have a SAS HBA and a cable to connect your host with the expander. We use Linux for example.

(A) Show the device for AIC Expander Controller (canister)

```
$ sg_map -i
/dev/sg2 AIC 12G 2U24SAS3swap 0c01
```

(B) Get the current state of a slot power. The "Device off=0" means the slot power is on.

```
$ sg_ses --page=2 /dev/sg2
Element 0 descriptor:
App client bypass B=0, Fault sensed=0, Fault reqstd=0, Device off=0
```

(C) Get the descriptor of a slot power

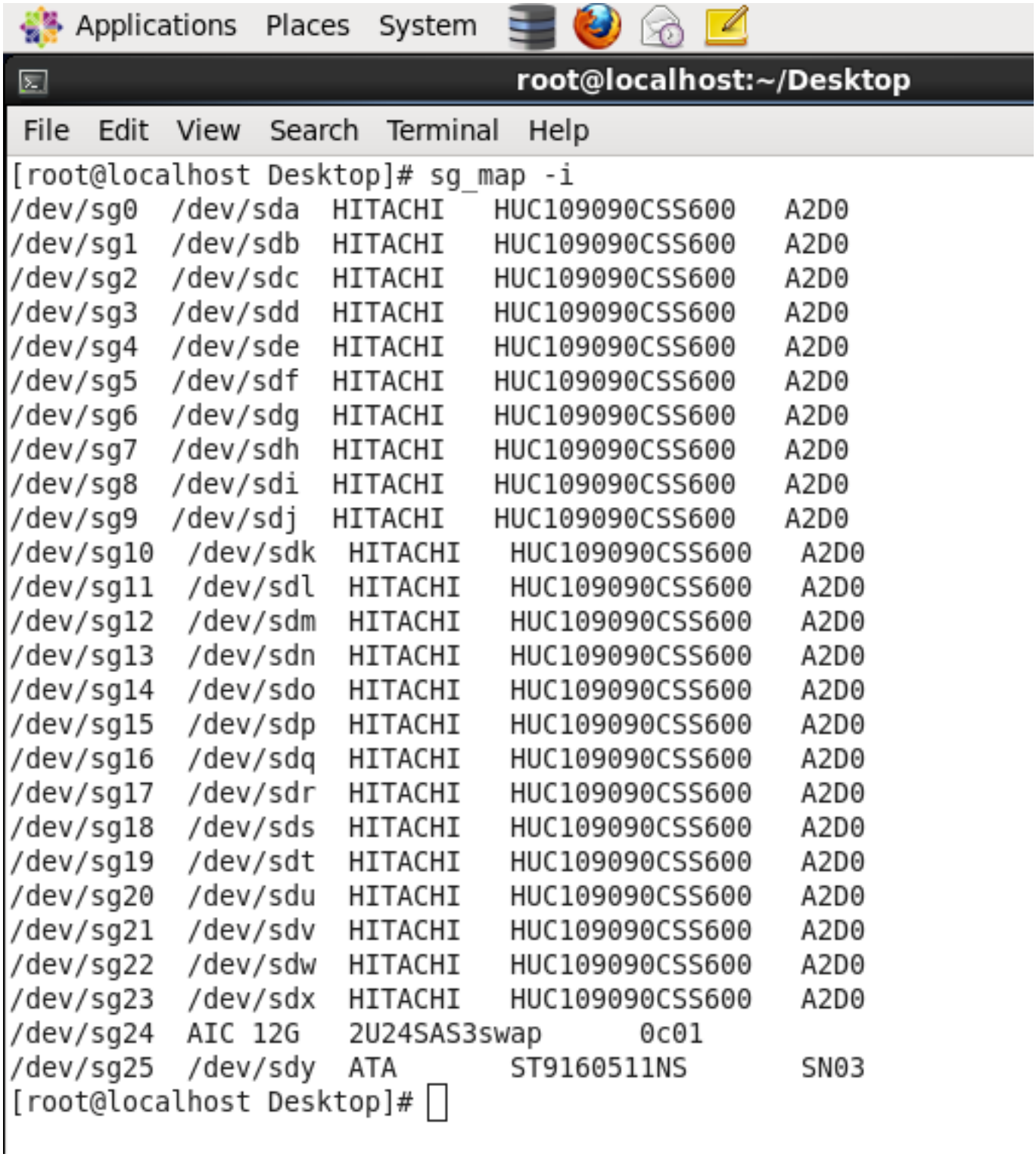
```
$ sg_ses --page=7 /dev/sg2
Element 0 descriptor: Disk001
```

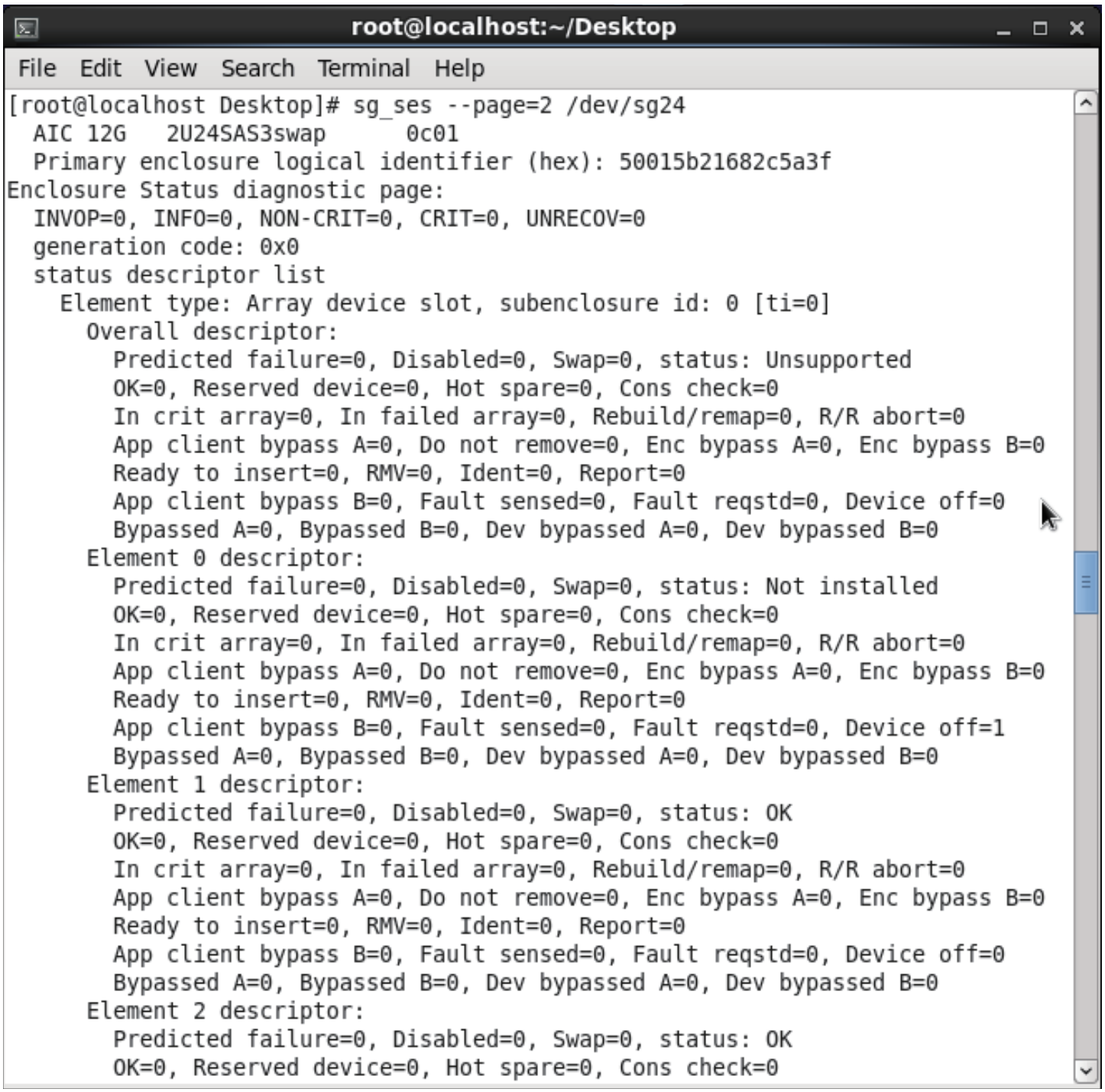
(D) Turn off a slot power

```
$ sg_ses --descriptor=Disk001 --set=3:4:1 /dev/sg2
```

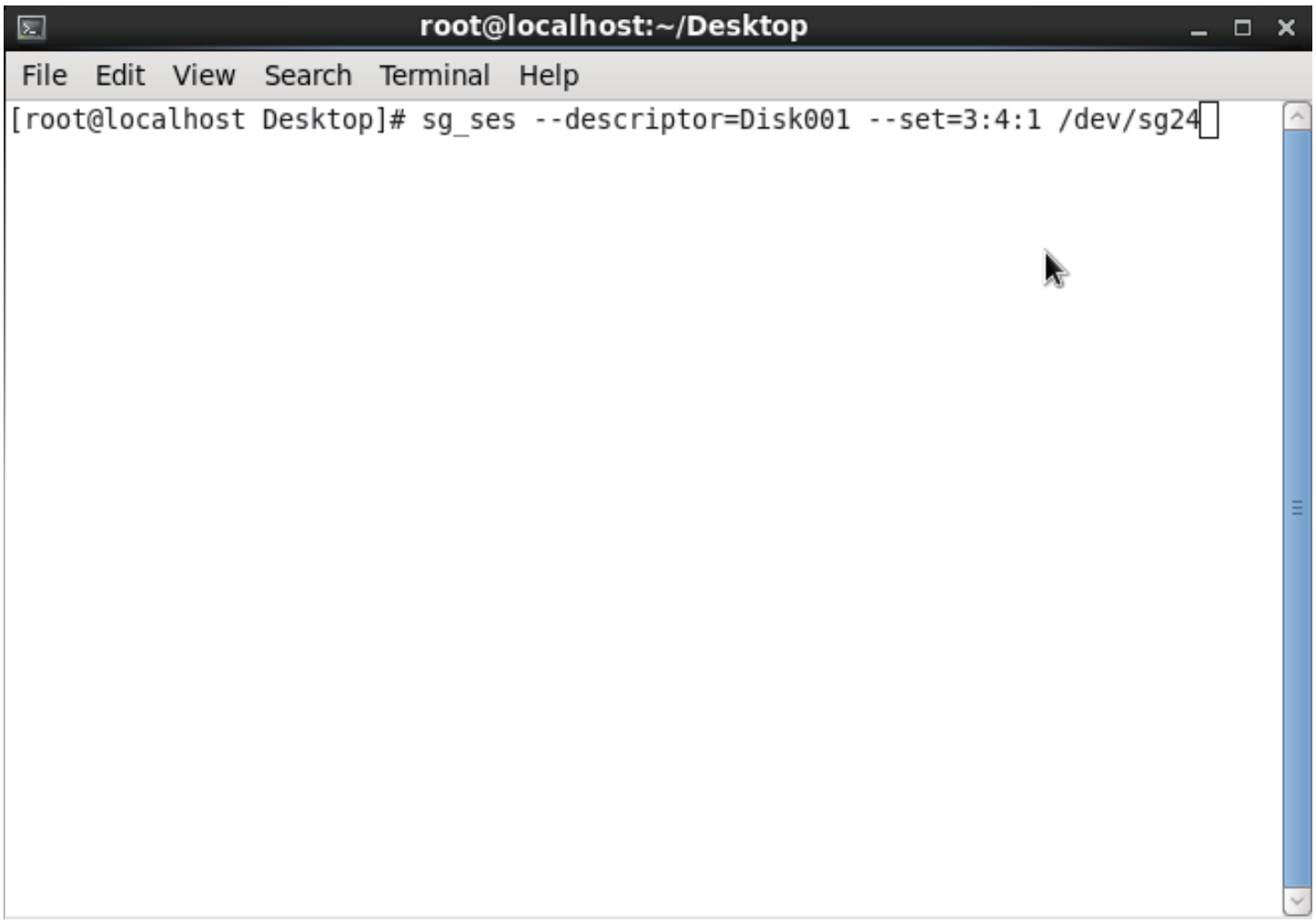
(E) Turn on a slot power

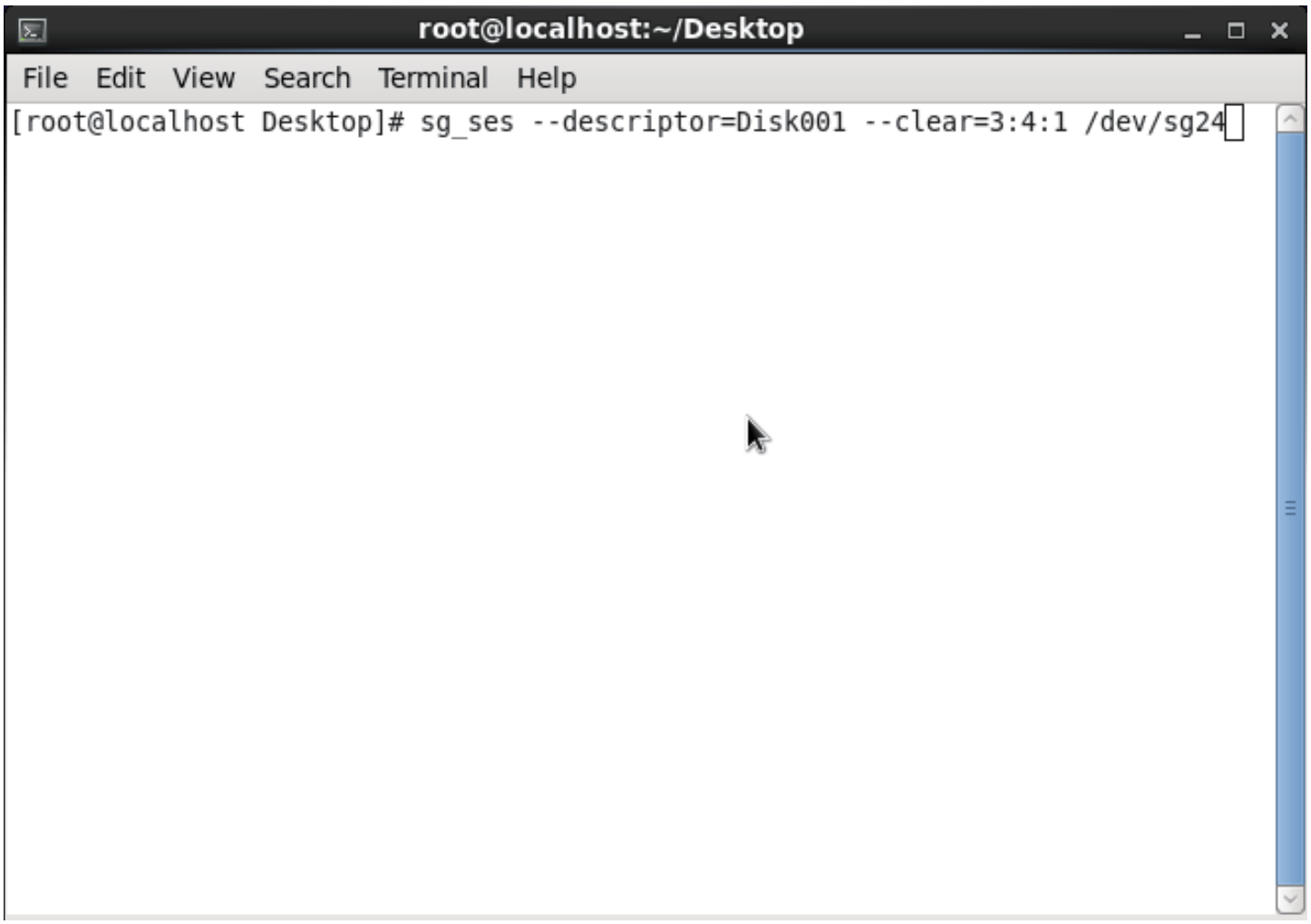
```
$ sg_ses --descriptor=Disk001 --clear=3:4:1 /dev/sg2
```


Applications Places System
root@localhost:~/Desktop
File Edit View Search Terminal Help
[root@localhost Desktop]# sg_map -i
/dev/sg0 /dev/sda HITACHI HUC109090CSS600 A2D0
/dev/sg1 /dev/sdb HITACHI HUC109090CSS600 A2D0
/dev/sg2 /dev/sdc HITACHI HUC109090CSS600 A2D0
/dev/sg3 /dev/sdd HITACHI HUC109090CSS600 A2D0
/dev/sg4 /dev/sde HITACHI HUC109090CSS600 A2D0
/dev/sg5 /dev/sdf HITACHI HUC109090CSS600 A2D0
/dev/sg6 /dev/sdg HITACHI HUC109090CSS600 A2D0
/dev/sg7 /dev/sdh HITACHI HUC109090CSS600 A2D0
/dev/sg8 /dev/sdi HITACHI HUC109090CSS600 A2D0
/dev/sg9 /dev/sdj HITACHI HUC109090CSS600 A2D0
/dev/sg10 /dev/sdk HITACHI HUC109090CSS600 A2D0
/dev/sg11 /dev/sdl HITACHI HUC109090CSS600 A2D0
/dev/sg12 /dev/sdm HITACHI HUC109090CSS600 A2D0
/dev/sg13 /dev/sdn HITACHI HUC109090CSS600 A2D0
/dev/sg14 /dev/sdo HITACHI HUC109090CSS600 A2D0
/dev/sg15 /dev/sdp HITACHI HUC109090CSS600 A2D0
/dev/sg16 /dev/sdq HITACHI HUC109090CSS600 A2D0
/dev/sg17 /dev/sdr HITACHI HUC109090CSS600 A2D0
/dev/sg18 /dev/sds HITACHI HUC109090CSS600 A2D0
/dev/sg19 /dev/sdt HITACHI HUC109090CSS600 A2D0
/dev/sg20 /dev/sdu HITACHI HUC109090CSS600 A2D0
/dev/sg21 /dev/sdv HITACHI HUC109090CSS600 A2D0
/dev/sg22 /dev/sdw HITACHI HUC109090CSS600 A2D0
/dev/sg23 /dev/sdx HITACHI HUC109090CSS600 A2D0
/dev/sg24 AIC 12G 2U24SAS3swap 0c01
/dev/sg25 /dev/sdy ATA ST9160511NS SN03
[root@localhost Desktop]#


root@localhost:~/Desktop
File Edit View Search Terminal Help
[root@localhost Desktop]# sg_ses --page=2 /dev/sg24
AIC 12G 2U24SAS3swap 0c01
Primary enclosure logical identifier (hex): 50015b21682c5a3f
Enclosure Status diagnostic page:
INVOP=0, INFO=0, NON-CRIT=0, CRIT=0, UNRECOV=0
generation code: 0x0
status descriptor list
Element type: Array device slot, subenclosure id: 0 [ti=0]
Overall descriptor:
Predicted failure=0, Disabled=0, Swap=0, status: Unsupported
OK=0, Reserved device=0, Hot spare=0, Cons check=0
In crit array=0, In failed array=0, Rebuild/remap=0, R/R abort=0
App client bypass A=0, Do not remove=0, Enc bypass A=0, Enc bypass B=0
Ready to insert=0, RMV=0, Ident=0, Report=0
App client bypass B=0, Fault sensed=0, Fault reqstd=0, Device off=0
Bypassed A=0, Bypassed B=0, Dev bypassed A=0, Dev bypassed B=0
Element 0 descriptor:
Predicted failure=0, Disabled=0, Swap=0, status: Not installed
OK=0, Reserved device=0, Hot spare=0, Cons check=0
In crit array=0, In failed array=0, Rebuild/remap=0, R/R abort=0
App client bypass A=0, Do not remove=0, Enc bypass A=0, Enc bypass B=0
Ready to insert=0, RMV=0, Ident=0, Report=0
App client bypass B=0, Fault sensed=0, Fault reqstd=0, Device off=1
Bypassed A=0, Bypassed B=0, Dev bypassed A=0, Dev bypassed B=0
Element 1 descriptor:
Predicted failure=0, Disabled=0, Swap=0, status: OK
OK=0, Reserved device=0, Hot spare=0, Cons check=0
In crit array=0, In failed array=0, Rebuild/remap=0, R/R abort=0
App client bypass A=0, Do not remove=0, Enc bypass A=0, Enc bypass B=0
Ready to insert=0, RMV=0, Ident=0, Report=0
App client bypass B=0, Fault sensed=0, Fault reqstd=0, Device off=0
Bypassed A=0, Bypassed B=0, Dev bypassed A=0, Dev bypassed B=0
Element 2 descriptor:
Predicted failure=0, Disabled=0, Swap=0, status: OK
OK=0, Reserved device=0, Hot spare=0, Cons check=0

root@localhost:~/Desktop
File Edit View Search Terminal Help
[root@localhost Desktop]# sg_ses --page=7 /dev/sg24
AIC 12G 2U24SAS3swap 0c01
Primary enclosure logical identifier (hex): 50015b21682c5a3f
Element Descriptor In diagnostic page:
generation code: 0x0
element descriptor by type list
Element type: Array device slot, subenclosure id: 0 [ti=0]
Overall descriptor: ArrayDevicesInSubEnclsr0
Element 0 descriptor: Disk001
Element 1 descriptor: Disk002
Element 2 descriptor: Disk003
Element 3 descriptor: Disk004
Element 4 descriptor: Disk005
Element 5 descriptor: Disk006
Element 6 descriptor: Disk007
Element 7 descriptor: Disk008
Element 8 descriptor: Disk009
Element 9 descriptor: Disk010
Element 10 descriptor: Disk011
Element 11 descriptor: Disk012
Element 12 descriptor: Disk013
Element 13 descriptor: Disk014
Element 14 descriptor: Disk015
Element 15 descriptor: Disk016
Element 16 descriptor: Disk017
Element 17 descriptor: Disk018
Element 18 descriptor: Disk019
Element 19 descriptor: Disk020
Element 20 descriptor: Disk021
Element 21 descriptor: Disk022
Element 22 descriptor: Disk023
Element 23 descriptor: Disk024
Element type: Temperature sensor, subenclosure id: 0 [ti=1]
Overall descriptor: TempSensorsInSubEnclsr0
Element 0 descriptor: SystemTempSense01
Element type: Voltage sensor, subenclosure id: 0 [ti=2]
Overall descriptor: VoltageSensorsInSubEnclsr0
Element 0 descriptor: VoltageSense01
Element 1 descriptor: VoltageSense02
Element type: Enclosure, subenclosure id: 0 [ti=3]
Overall descriptor: EnclosureElementInSubEnclsr0
Element 0 descriptor: EnclosureElement01
Element type: Power supply, subenclosure id: 0 [ti=4]
Overall descriptor: PowerSupplyInSubEnclsr0
root@localhost:~/Des...


root@localhost:~/Desktop
File Edit View Search Terminal Help
[root@localhost Desktop]# sg_ses --descriptor=Disk001 --set=3:4:1 /dev/sg24


root@localhost:~/Desktop
File Edit View Search Terminal Help
[root@localhost Desktop]# sg_ses --descriptor=Disk001 --clear=3:4:1 /dev/sg24

3.4.10 How to power off/on all disk drives manually

The "RQST ON" for Power Supply is defined in the bit5, byte3 of the "Power Supply control element" in the SES-3 specification. Clear the bit to power off all disk drives. Set the bit to power on all disk drives. Please install the software package "sg3_utils" on your host computer, and have a SAS HBA and a cable to connect your host with the expander. We use Linux for example.

(A) Show the device for AIC Expander Controller (canister)

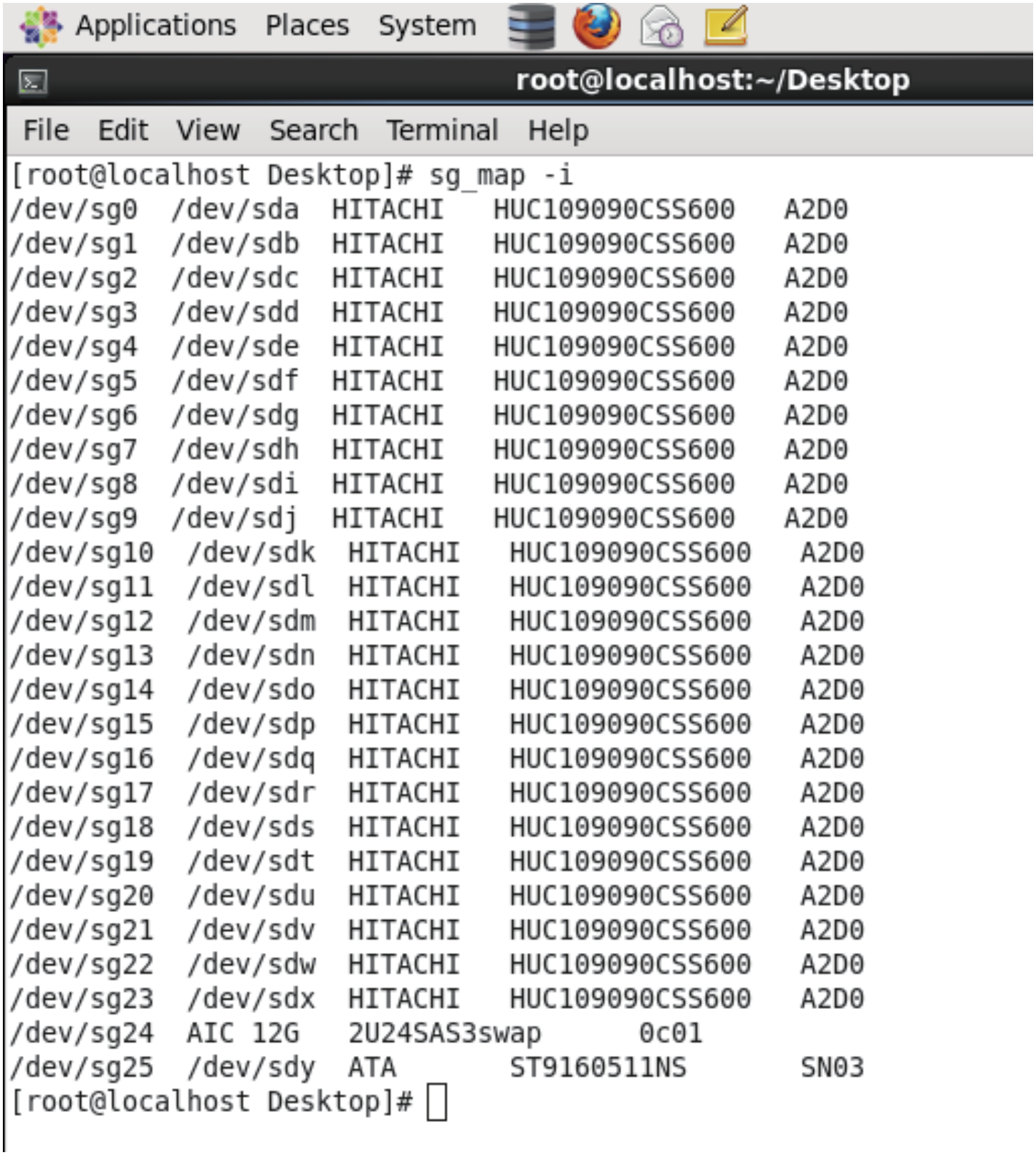
```
$ sg_map -i
/dev/sg2 AIC 12G 2U24SAS3swap 0c01
```

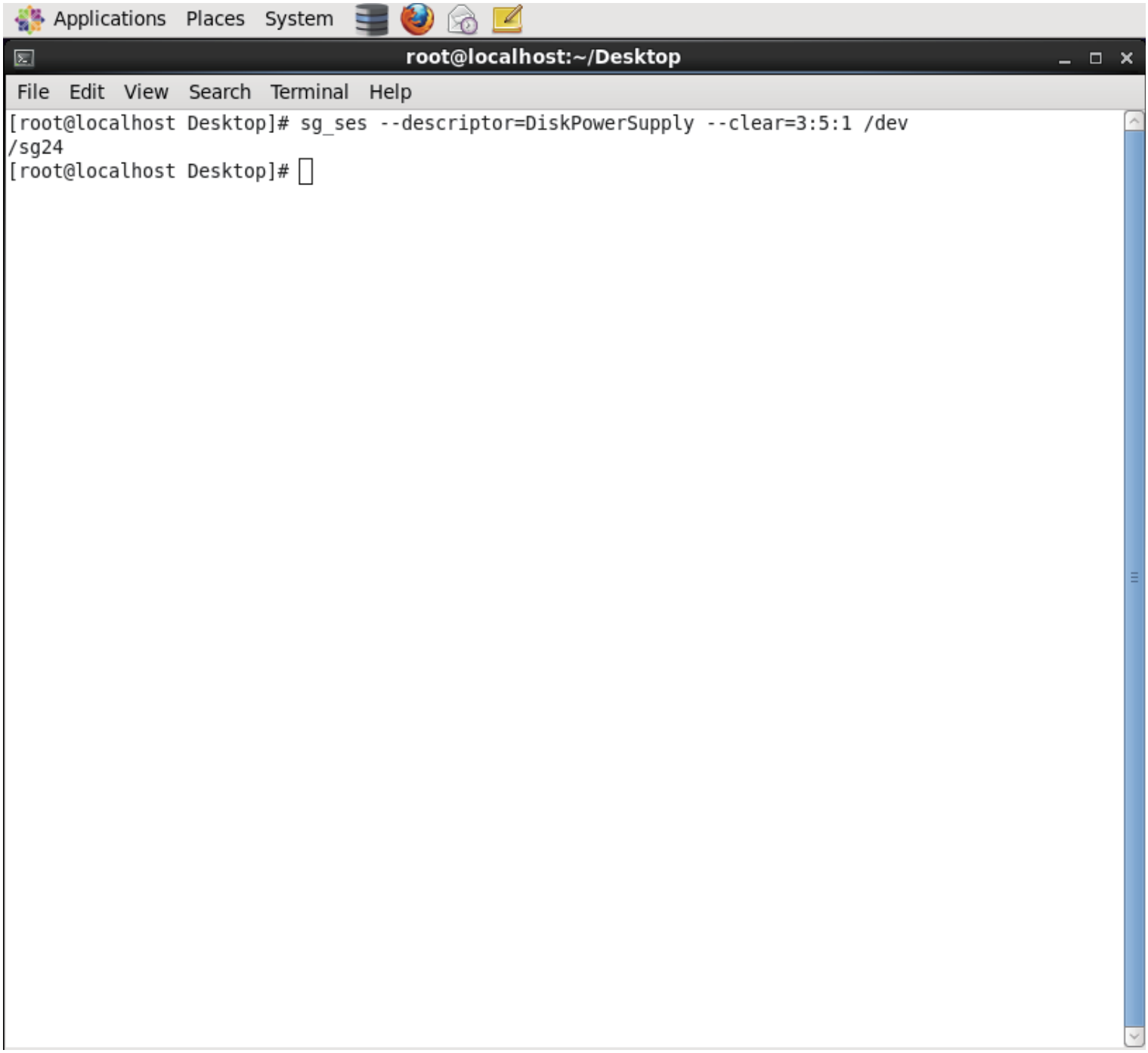
(B) Power off all disk drives

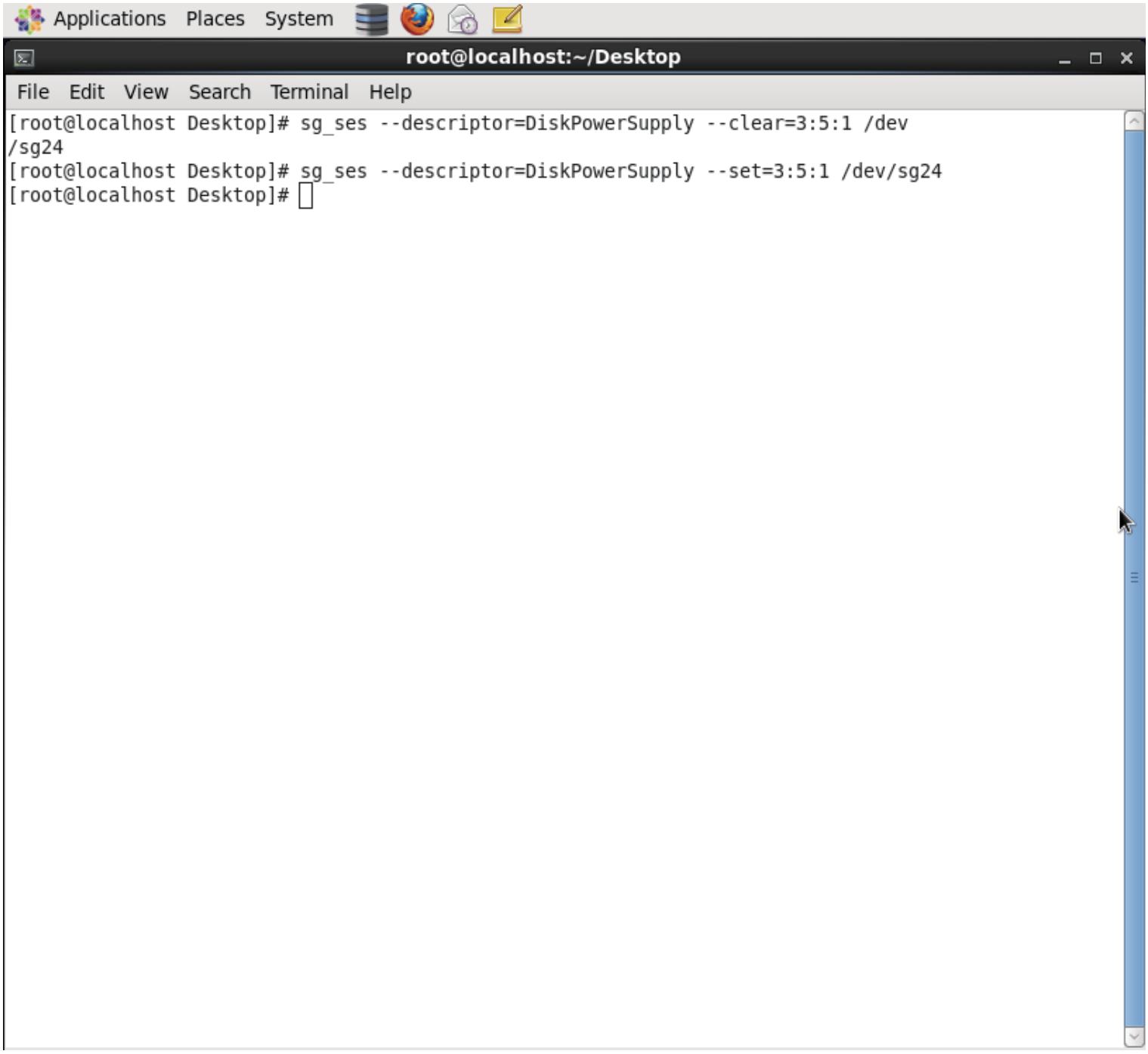
```
$ sg_ses --descriptor=DiskPowerSupply --clear=3:5:1 /dev/sg2
```

(C) Power on all disk drives

```
$ sg_ses --descriptor=DiskPowerSupply --set=3:5:1 /dev/sg2
```


Applications Places System
root@localhost:~/Desktop
File Edit View Search Terminal Help
[root@localhost Desktop]# sg_map -i
/dev/sg0 /dev/sda HITACHI HUC109090CSS600 A2D0
/dev/sg1 /dev/sdb HITACHI HUC109090CSS600 A2D0
/dev/sg2 /dev/sdc HITACHI HUC109090CSS600 A2D0
/dev/sg3 /dev/sdd HITACHI HUC109090CSS600 A2D0
/dev/sg4 /dev/sde HITACHI HUC109090CSS600 A2D0
/dev/sg5 /dev/sdf HITACHI HUC109090CSS600 A2D0
/dev/sg6 /dev/sdg HITACHI HUC109090CSS600 A2D0
/dev/sg7 /dev/sdh HITACHI HUC109090CSS600 A2D0
/dev/sg8 /dev/sdi HITACHI HUC109090CSS600 A2D0
/dev/sg9 /dev/sdj HITACHI HUC109090CSS600 A2D0
/dev/sg10 /dev/sdk HITACHI HUC109090CSS600 A2D0
/dev/sg11 /dev/sdl HITACHI HUC109090CSS600 A2D0
/dev/sg12 /dev/sdm HITACHI HUC109090CSS600 A2D0
/dev/sg13 /dev/sdn HITACHI HUC109090CSS600 A2D0
/dev/sg14 /dev/sdo HITACHI HUC109090CSS600 A2D0
/dev/sg15 /dev/sdp HITACHI HUC109090CSS600 A2D0
/dev/sg16 /dev/sdq HITACHI HUC109090CSS600 A2D0
/dev/sg17 /dev/sdr HITACHI HUC109090CSS600 A2D0
/dev/sg18 /dev/sds HITACHI HUC109090CSS600 A2D0
/dev/sg19 /dev/sdt HITACHI HUC109090CSS600 A2D0
/dev/sg20 /dev/sdu HITACHI HUC109090CSS600 A2D0
/dev/sg21 /dev/sdv HITACHI HUC109090CSS600 A2D0
/dev/sg22 /dev/sdw HITACHI HUC109090CSS600 A2D0
/dev/sg23 /dev/sdx HITACHI HUC109090CSS600 A2D0
/dev/sg24 AIC 12G 2U24SAS3swap 0c01
/dev/sg25 /dev/sdy ATA ST9160511NS SN03
[root@localhost Desktop]#


Applications Places System
root@localhost:~/Desktop
File Edit View Search Terminal Help
[root@localhost Desktop]# sg_ses --descriptor=DiskPowerSupply --clear=3:5:1 /dev
/sg24
[root@localhost Desktop]#


Applications Places System
root@localhost:~/Desktop
File Edit View Search Terminal Help
[root@localhost Desktop]# sg_ses --descriptor=DiskPowerSupply --clear=3:5:1 /dev
/sg24
[root@localhost Desktop]# sg_ses --descriptor=DiskPowerSupply --set=3:5:1 /dev/sg24
[root@localhost Desktop]#

3.4.11 How to manually change PWM (fan speed) for all Cooling elements

The "RQST IDENT" for Cooling is defined in the bit7, byte1 and the "REQUESTED SPEED CODE" is defined in the bit2 ~ 0, byte3 of the "Cooling control element" in the SES specification. Set "RQST IDENT" bit to disable the smart fan function, and then change PWM or fan speed for all Cooling elements by setting the "REQUESTED SPEED CODE" bits. Clear "RQST IDENT" bit to enable the smart fan function again. Please disable the smart fan function before changing PWM or fan speed. Only Cooling element 0 supports this feature. We use the software package "sg3_utils" on Linux for example, and have a SAS HBA and a cable to connect your host with the expander.

(A) Show the device for AIC Expander Controller (canister)

```
$ sg_map -i

/dev/sg2  AIC 12G   2U24SAS3swap      0c01
```

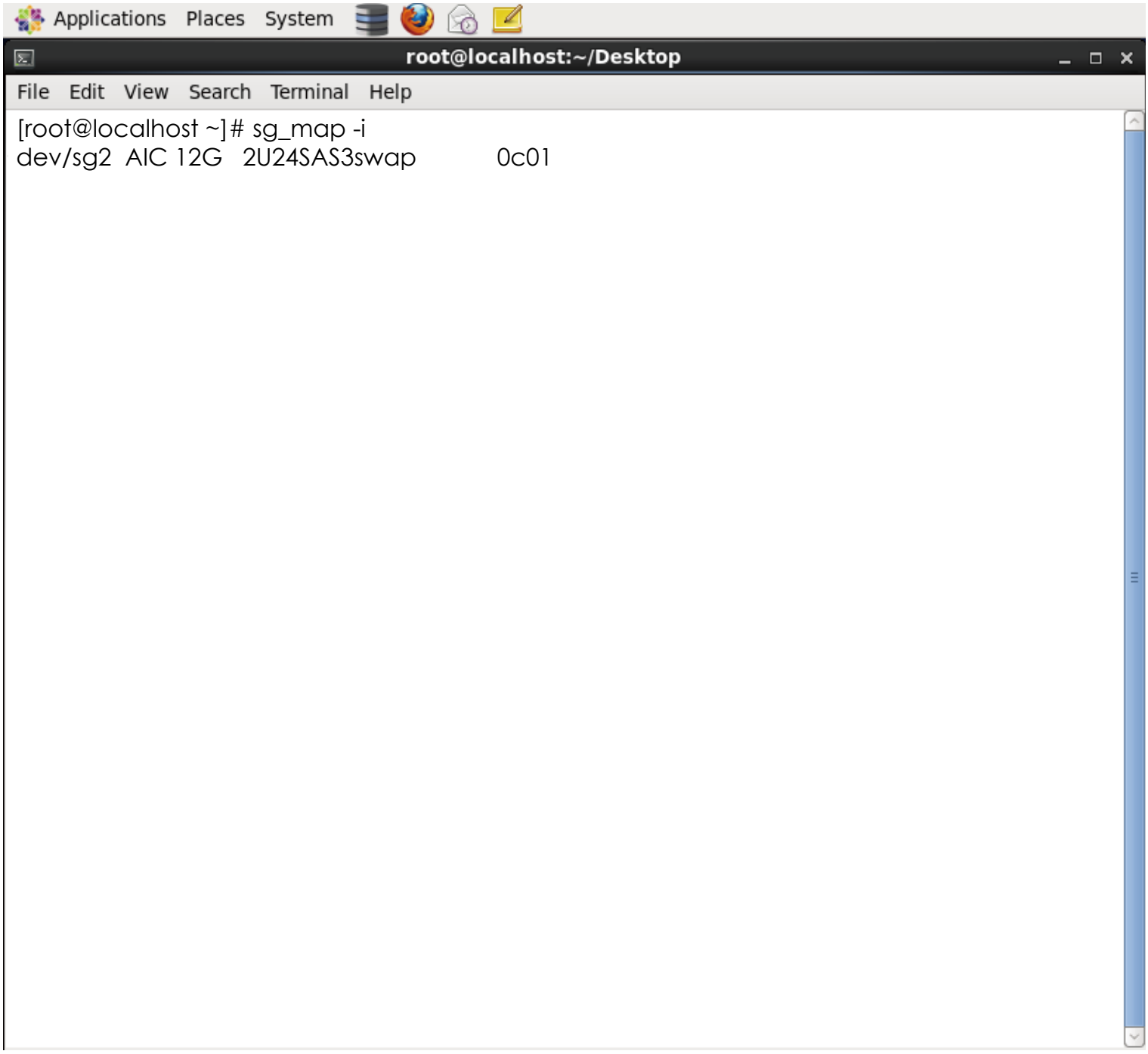
(B)Set "RQST IDENT" of Cooling element 0 to disable the smart fan function

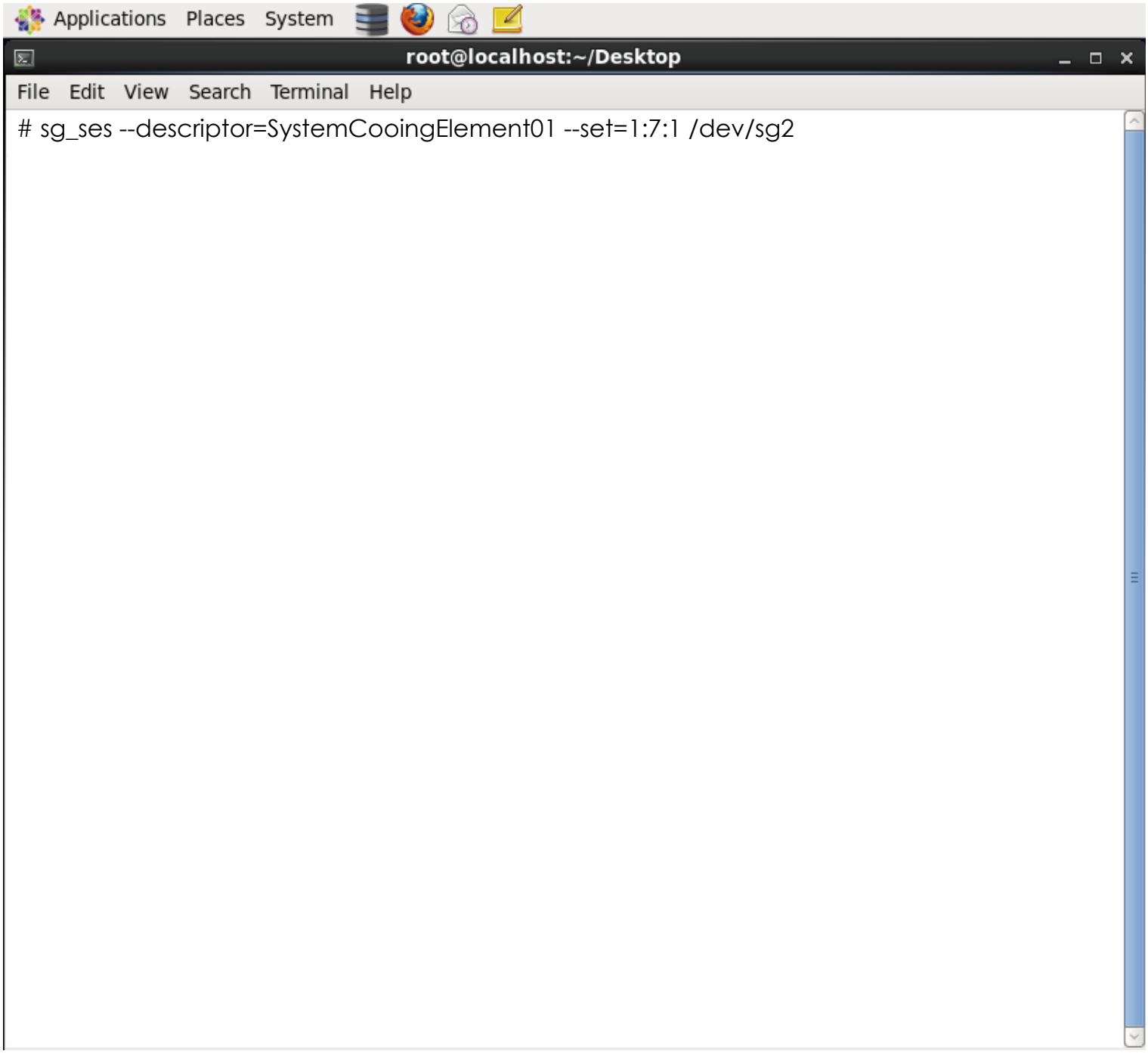
```
$ sg_ses --descriptor=SystemCoolingElement01 --set=1:7:1 /dev/sg2
```

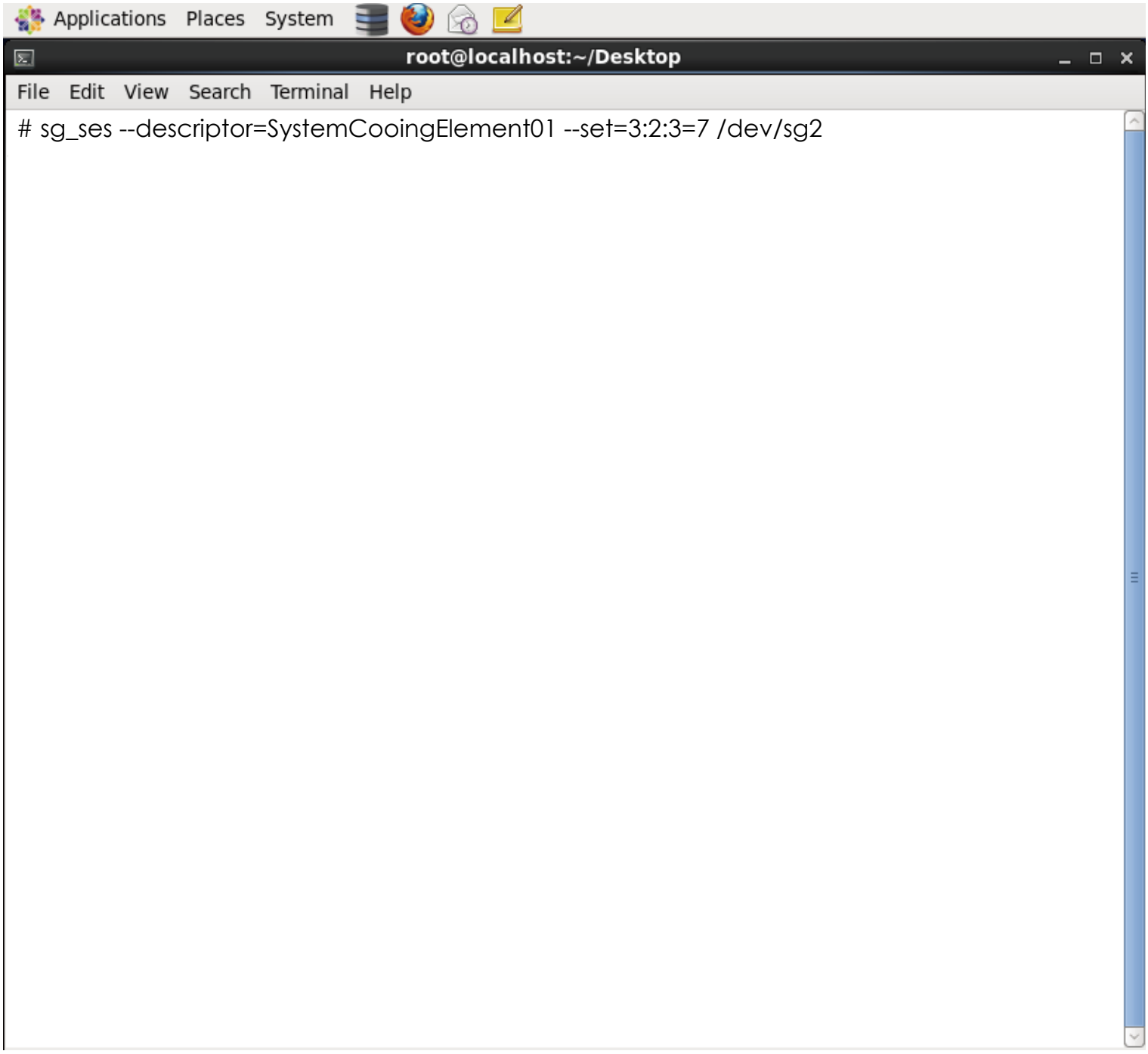
(C)Set "REQUESTED SPEED CODE" of Cooling element 0 to change PWM or fan speed for all Cooling elements. Set "REQUESTED SPEED CODE"=7 (100% PWM) for example.

```
$ sg_ses --descriptor=SystemCoolingElement01 --set 3:2:3=7 /dev/sg2
```

REQUESTED SPEED CODE	PWM
7	100%
6	90%
5	80%
4	70%
3	60%
2	50%
1	40%
0	Leave at current speed

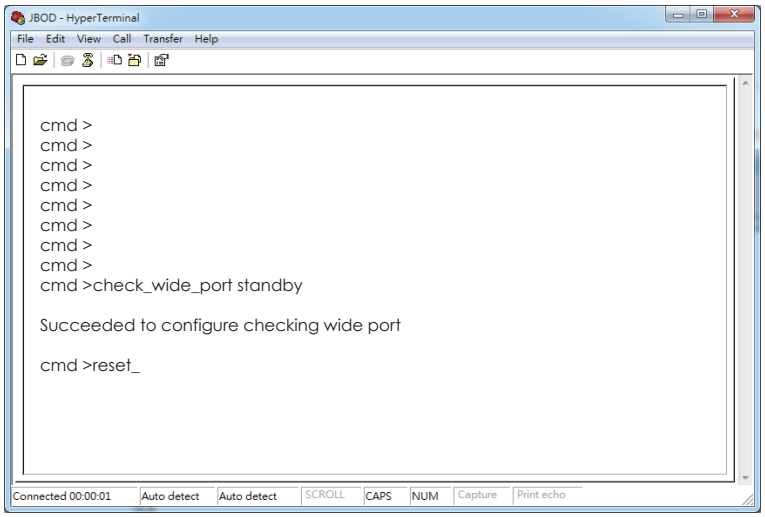

Applications
Places
System
root@localhost:~/Desktop
File
Edit
View
Search
Terminal
Help
[root@localhost ~]# sg_map -i
dev/sg2 AIC 12G 2U24SAS3swap 0c01


Applications Places System
root@localhost:~/Desktop
File Edit View Search Terminal Help
sg_ses --descriptor=SystemCooingElement01 --set=1:7:1 /dev/sg2


Applications Places System
root@localhost:~/Desktop
File Edit View Search Terminal Help
sg_ses --descriptor=SystemCooingElement01 --set=3:2:3=7 /dev/sg2

3.4.12 How to power off/on all disk drives automatically

This feature is applicable for SAS/SATA drives. If there is no connection with any active SAS initiator by checking all wide ports, AIC Expander Controller powers off all attached SAS/SATA drives to save power consumption. Otherwise, AIC Expander Controller powers on all attached SAS/SATA drives to provide drive access service to any active SAS initiator.
(A) Apply the following commands on the COM port.
cmd> check_wide_port standby
cmd> reset



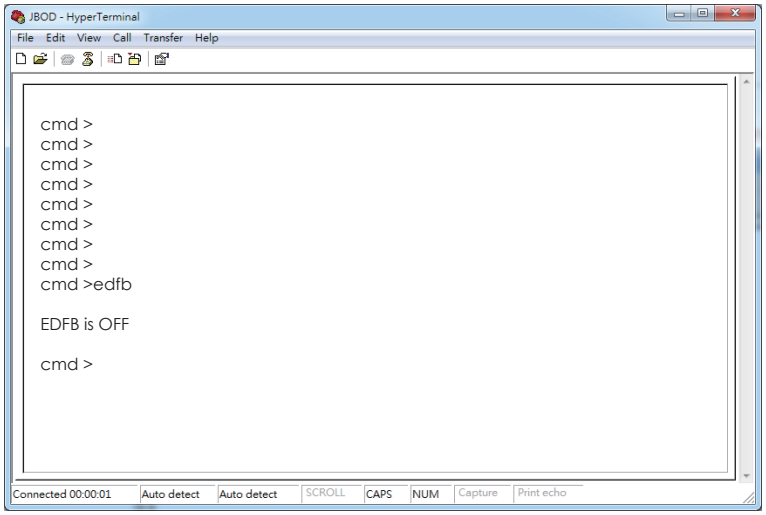
WARNING : THIS FUNCTION IS NOT RECOMMENDED TO USE WITH RAID CARD SINCE RAID CARD LIMITATION.

3.4.13 How to configure power setting

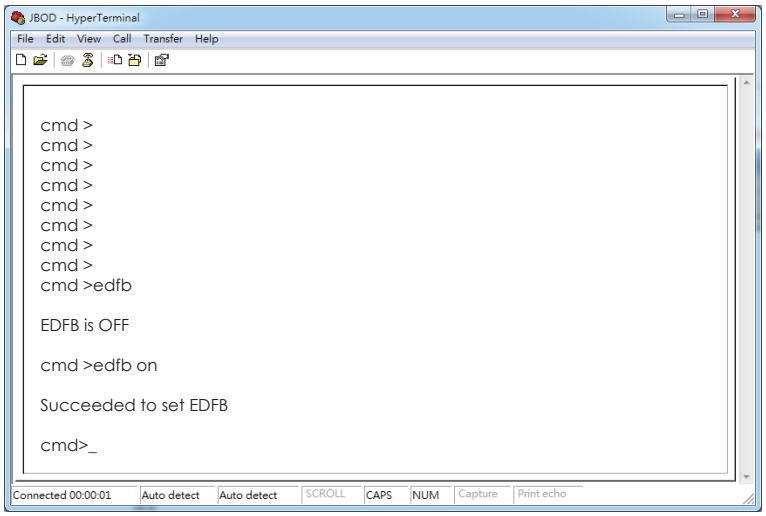
This feature is for restoring on AC power loss. Three supported options are "keep off", "keep on", and "keep last state". The default setting is "keep off".
(A) Get the current power setting
cmd> power_setting
Power setting: keep off
(B) Set "keep off"
cmd> power_setting keep_off
(C) Set "keep on"
cmd> power_setting keep_on
(D) Set "keep last state"
cmd> power_setting keep_last_state

3.4.14 How to enable the EDFB function on 12G expander

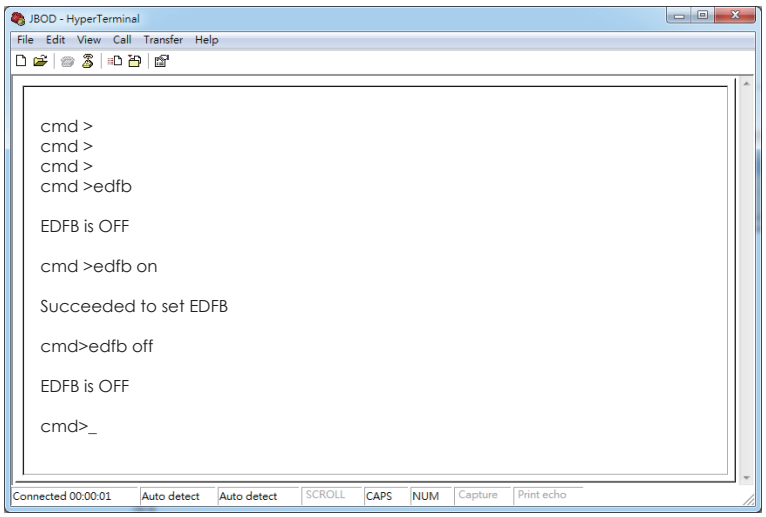
The default EDFB configuration is off.
Check the current configuration
cmd> edfb



Enable the edfb
cmd>edfb on

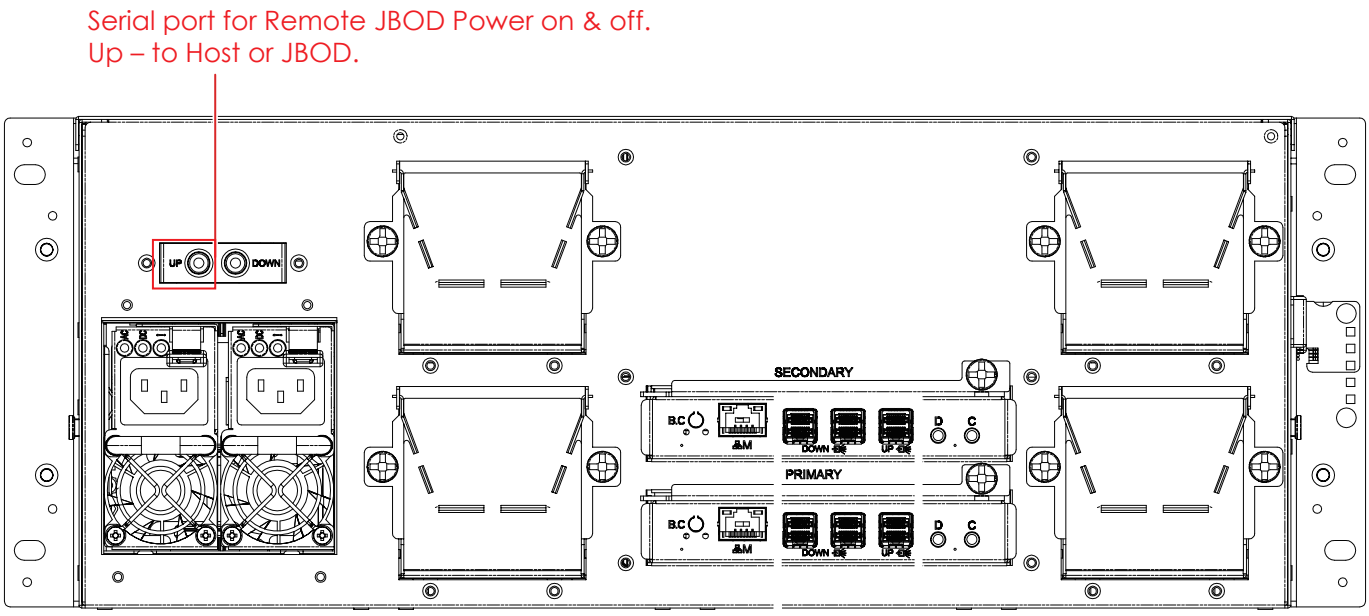


Disable the edfb
cmd> edfb off



3.5 Power on/off the enclosure via RS232

The RS232 setting - baud rate: 9600 bps, data bits: 8, parity: odd, stop bits: 1, flow control: none



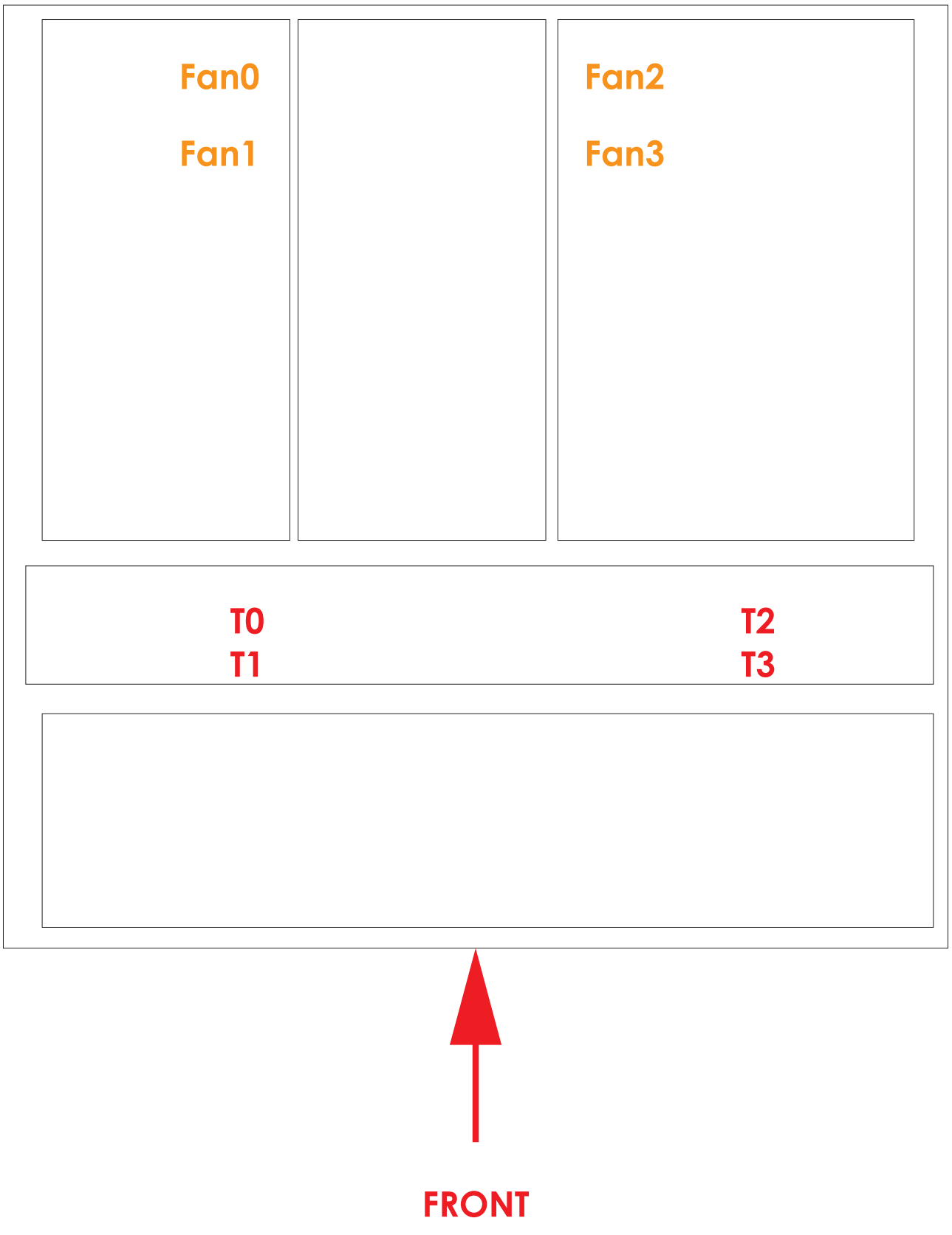
The power-on command is "RemoteStart\n" where "\n" means Carriage Return and Linefeed. The power-off command is "RemoteStop\n". When the host RS232 receives "RemoteStart\n" or "RemoteStop\n" from the enclosure after the same command was sent to the enclosure, that means the enclosure accepts the command sent by the host. **The reference script below runs on Linux.**

```
##########################################################################
#!/bin/bash
PORT="/dev/ttyS0"
BAUDRATE="9600"
NOFLOW="-ixon -ixoff -crtscts"
SOFTFLOW="ixon ixoff -crtscts"
DEFAULT="-inpck clocal -istrip ignbrk ignpar opost onlcr -iexten"
if [ $# -eq 0 ] ; then
echo "Usage: $0 start/stop"
exit 1
fi
[ ! -e "$PORT" ] && echo "Console closed..."
stty -F $PORT $BAUDRATE cs8 parenb parodd -cstopb $NOFLOW opost onlcr
case $1 in
start)
echo "RemoteStart"
```

```
echo -e "\n" > $PORT
echo -e "RemoteStart\n" > $PORT
echo -e "RemoteStart\n" > $PORT
echo -e "RemoteStart\n" > $PORT
echo -e "RemoteStart\n" > $PORT
echo -e "RemoteStart\n" > $PORT
;;
stop)
echo "RemoteStop"
echo -e "\n" > $PORT
echo -e "RemoteStop\n" > $PORT
echo -e "RemoteStop\n" > $PORT
```

Chapter 4. BMC Configuration and Settings

4.1 Sensor's location for Fan & Temperature

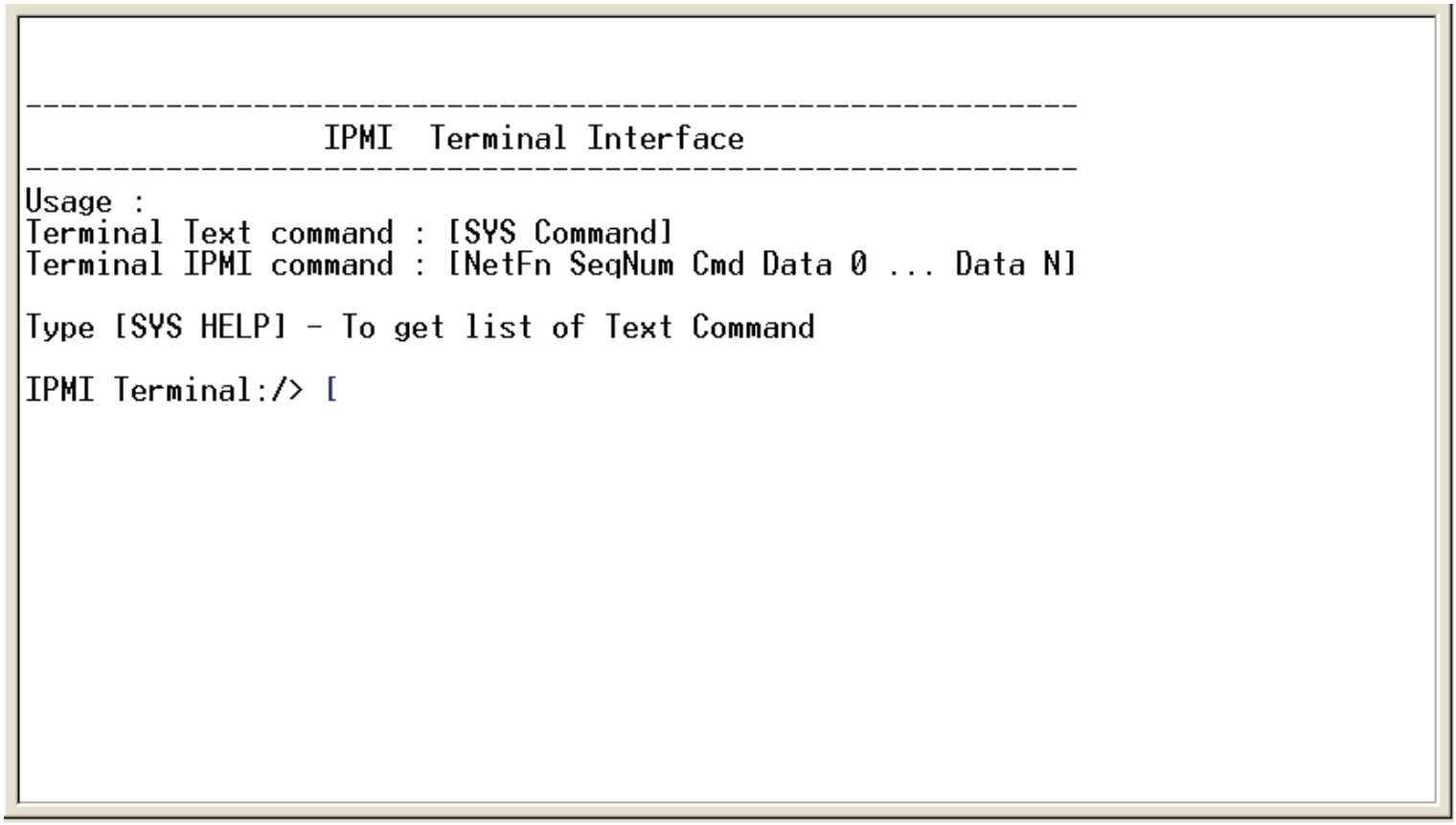


4.2 Utility setup on Host

Please refer to Section 3.2

4.3 Connect Host to BMC by RS232

1. Type the "[" , it will show the IPMI serial interface


IPMI Terminal Interface
Usage :
Terminal Text command : [SYS Command]
Terminal IPMI command : [NetFn SeqNum Cmd Data 0 ... Data N]
Type [SYS HELP] - To get list of Text Command
IPMI Terminal:/> [

Type command for login the interface.
#[sys pwd –u admin admin]
It will response [OK]

```
IPMI Terminal:/> [sys pwd -u admin admin ]
[OK]
```

2. Get LAN information

Get LAN static IP /DHCP [30 00 02 01 04 00 00]
Get LAN IP [30 00 02 01 03 00 00]
Get submask [30 00 02 01 06 00 00]
Get gateway [30 00 02 01 0C 00 00]

0_{hex}	=	0_{dec}
1_{hex}	=	1_{dec}
2_{hex}	=	2_{dec}
3_{hex}	=	3_{dec}
4_{hex}	=	4_{dec}
5_{hex}	=	5_{dec}
6_{hex}	=	6_{dec}
7_{hex}	=	7_{dec}
8_{hex}	=	8_{dec}
9_{hex}	=	9_{dec}
A_{hex}	=	10_{dec}
B_{hex}	=	11_{dec}
C_{hex}	=	12_{dec}
D_{hex}	=	13_{dec}
E_{hex}	=	14_{dec}
F_{hex}	=	15_{dec}

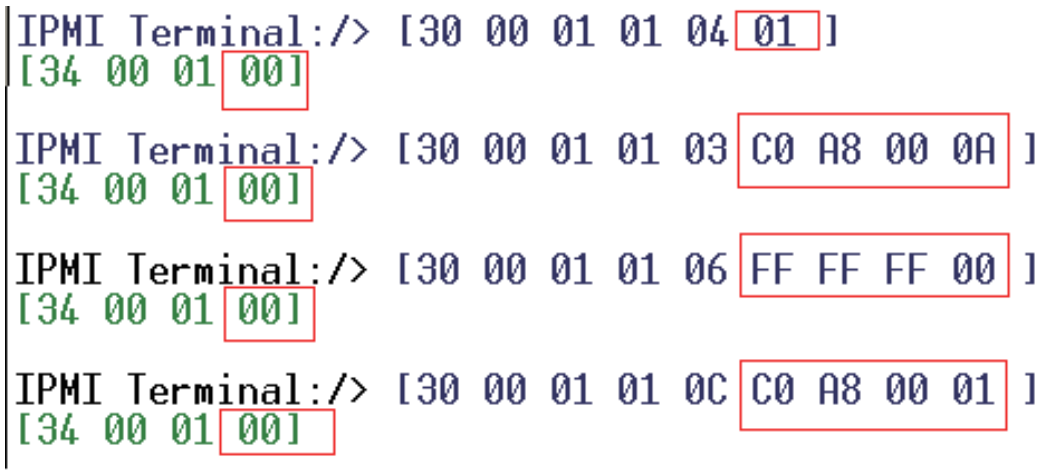
```
IPMI Terminal:/> [30 00 02 01 04 00 00]
[34 00 02 00 11 02]

IPMI Terminal:/> [30 00 02 01 03 00 00]
[34 00 02 00 11 C0 A8 58 6B]

IPMI Terminal:/> [30 00 02 01 06 00 00 ]
[34 00 02 00 11 FF FF FF 00]

IPMI Terminal:/> [30 00 02 01 0C 00 00 ]
[34 00 02 00 11 C0 A8 58 01]
```

Get LAN static IP /DHCP: **01 is static IP, 02 is DHCP.**
The red box is hexadecimal, according to the left picture, the IP is 16*12 + 0 = 192, 16*10 + 8 = 168, 16*5 + 8 = 88, 16*6 + 11 = 107, It is **192.168.88.107**

3. Set LAN information

Set LAN information

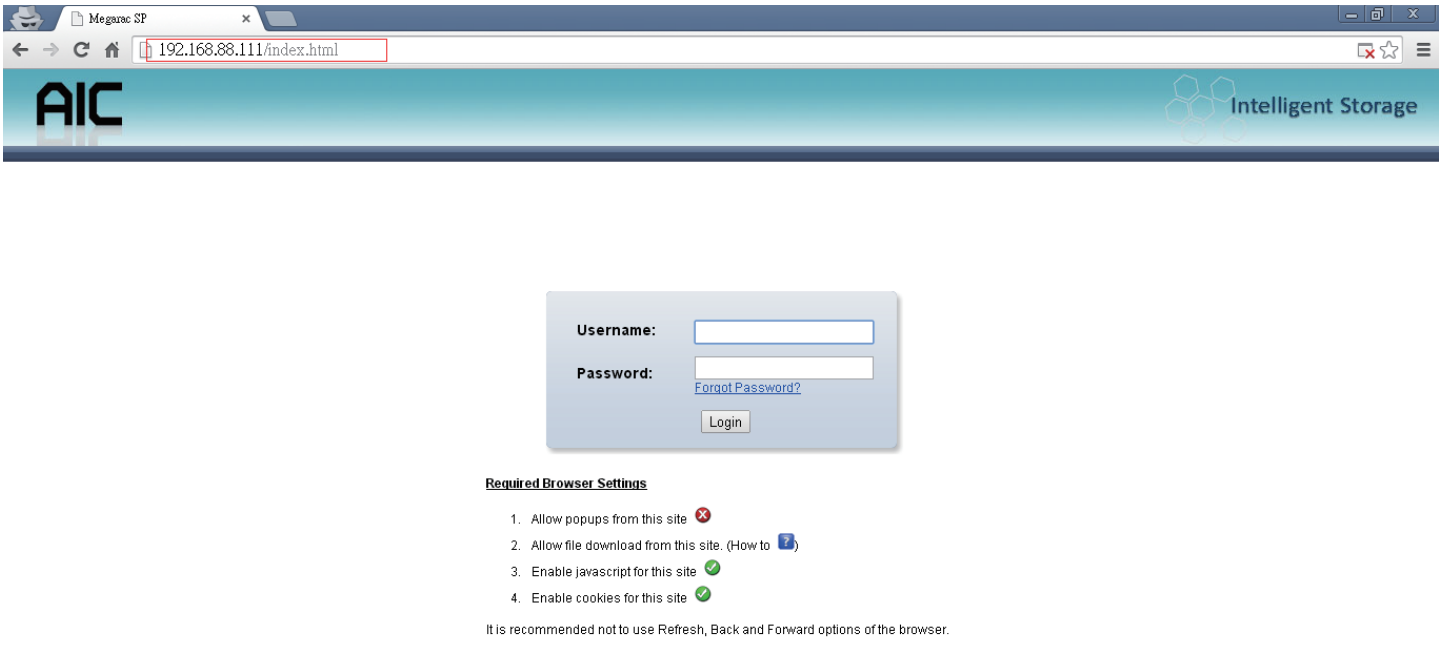
Set LAN static IP /DHCP	[30 00 01 01 04 01/02]
Set LAN IP	[30 00 01 01 03 C0 A8 00 0A]
Set submask	[30 00 01 01 06 FF FF FF 00]
Set gateway	[30 00 01 01 0C C0 A8 00 01]



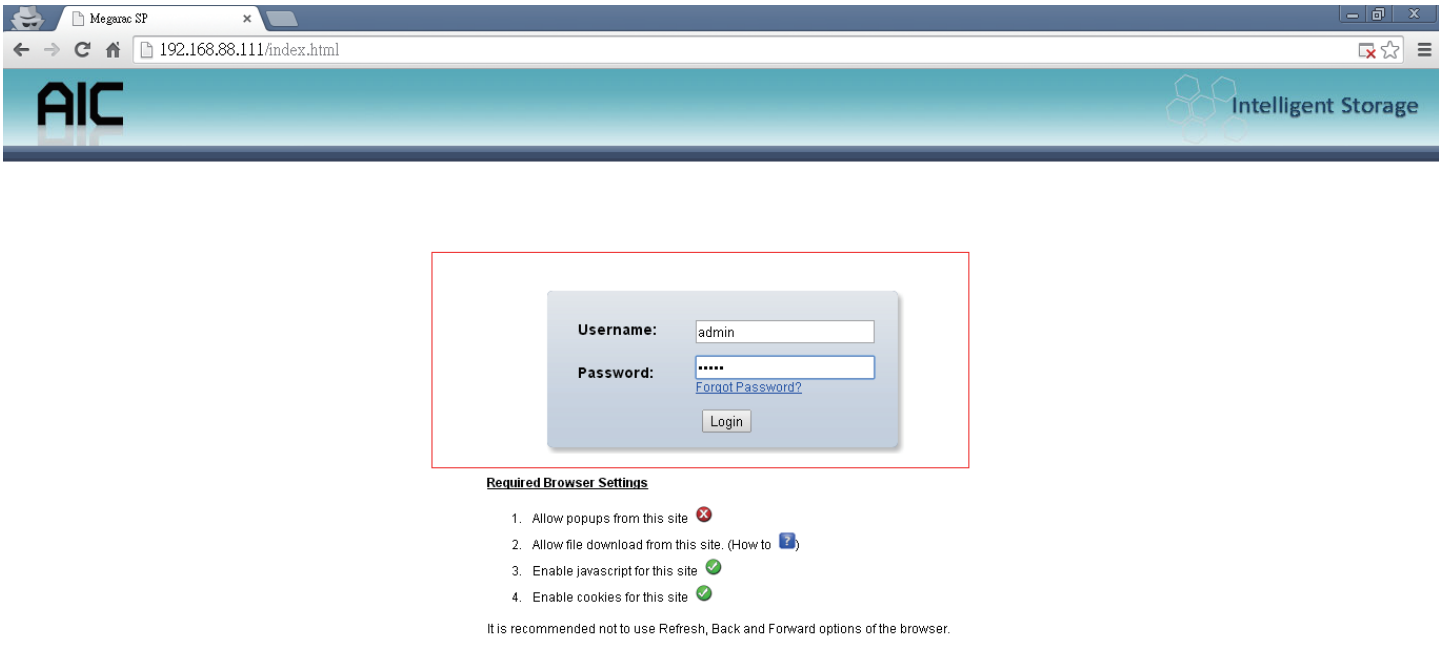
The Green returns text that in red box is completion code, **00 means OK**, The blue text can change the value what you want, if you want to change the IP address, must **set the LAN status to static.**

4. Login the web page

Open a browser, type the IP in the address bar

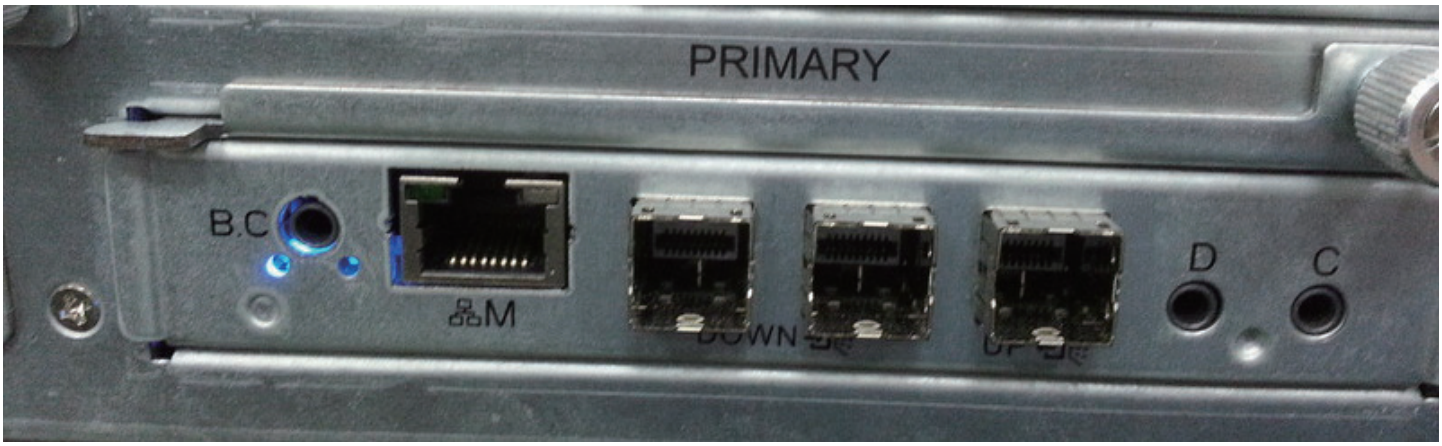

Megarac SP
192.168.88.111/index.html
AIC
Intelligent Storage
Username:
Password:
Forgot Password?
Login
Required Browser Settings
1. Allow popups from this site
2. Allow file download from this site. (How to)
3. Enable javascript for this site
4. Enable cookies for this site
It is recommended not to use Refresh, Back and Forward options of the browser.

Type the default account and password
Account:admin
Password:admin



4.4 BMC LED signal

There are have two LEDs under the BMC console.
Blue LED Light- Identify LED.
Red LED Light- When the light keep blinking, means BMC got error.



4.5 Web UI

4.5.1 Dashboard

Device Information

Displays the Firmware Revision and Firmware Build Time (Date and Time).

Network Information

Shows network settings for the device. Click on the link Edit to view the Network Settings Page.

Remote Control

Not support this function.

Remote Console Preview Box

It will show the console preview of the remote server using java application. Click on 'Refresh' button to reload the console preview.

Sensor Monitoring

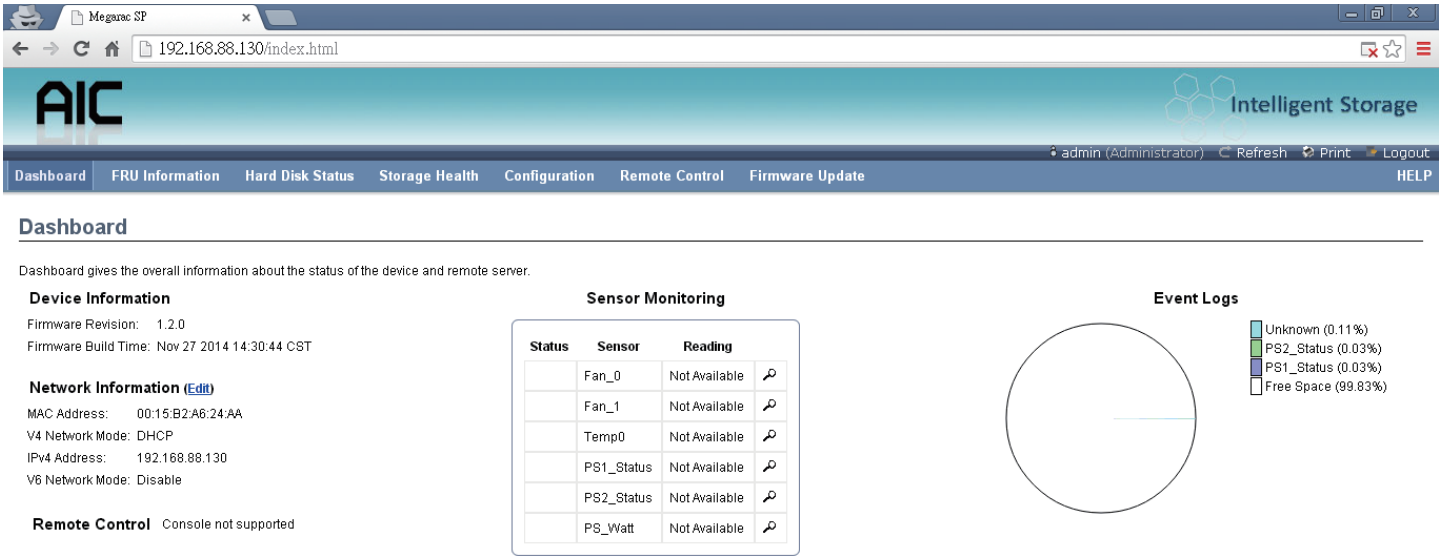
It lists all available sensors on the device, with information such as status, name, reading, and status icon, as well as a link to that sensor's page. There are 3 possible states for a Sensor:

- Green dot denotes a Normal state.
- Yellow exclamation mark denotes a Warning state.
- Red x denotes a Critical state.

The magnifying glass allows access to the Sensor details page for that sensor.

Event Logs

A graphical representation of all events incurred by the various sensors and % occupied/available space in logs. If you click on the color-coded rectangle in the Legend for the chart, you can view a list of those specific events only.



4.5.2 FRU information

This page displays the BMC FRU file information. On selecting a particular FRU Device ID its corresponding FRU information will be displayed.

Basic Information
It displays the FRU device ID and device name for the selected FRU device ID.

Chassis Information
It displays the following Chassis information fields.

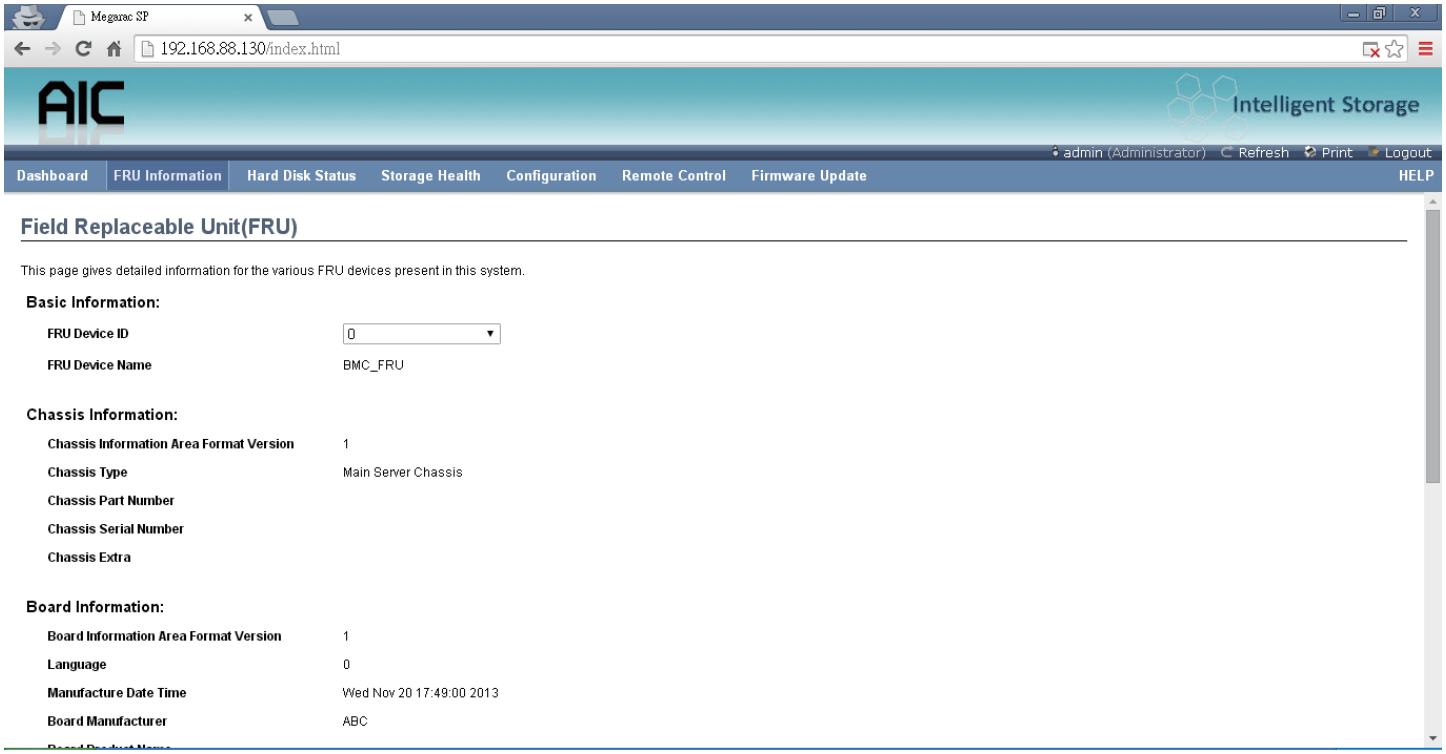
- Area Format Version
- Chassis Type
- Chassis Part Number
- Chassis Serial Number
- Chassis Extra

Board Information
It displays the following Board information fields.

- Area Format Version
- Language
- Manufacture Date Time
- Board Manufacturer
- Board Product Name
- Board Serial Number
- Board Part Number
- FRU File ID
- Board Extra

Product Information
It displays the following Product information fields.

- Area Format Version
- Language
- Manufacturer Name
- Product Name
- Product Part Number
- Product Version
- Product Serial Number
- Asset Tag
- FRU File ID
- Product Extra



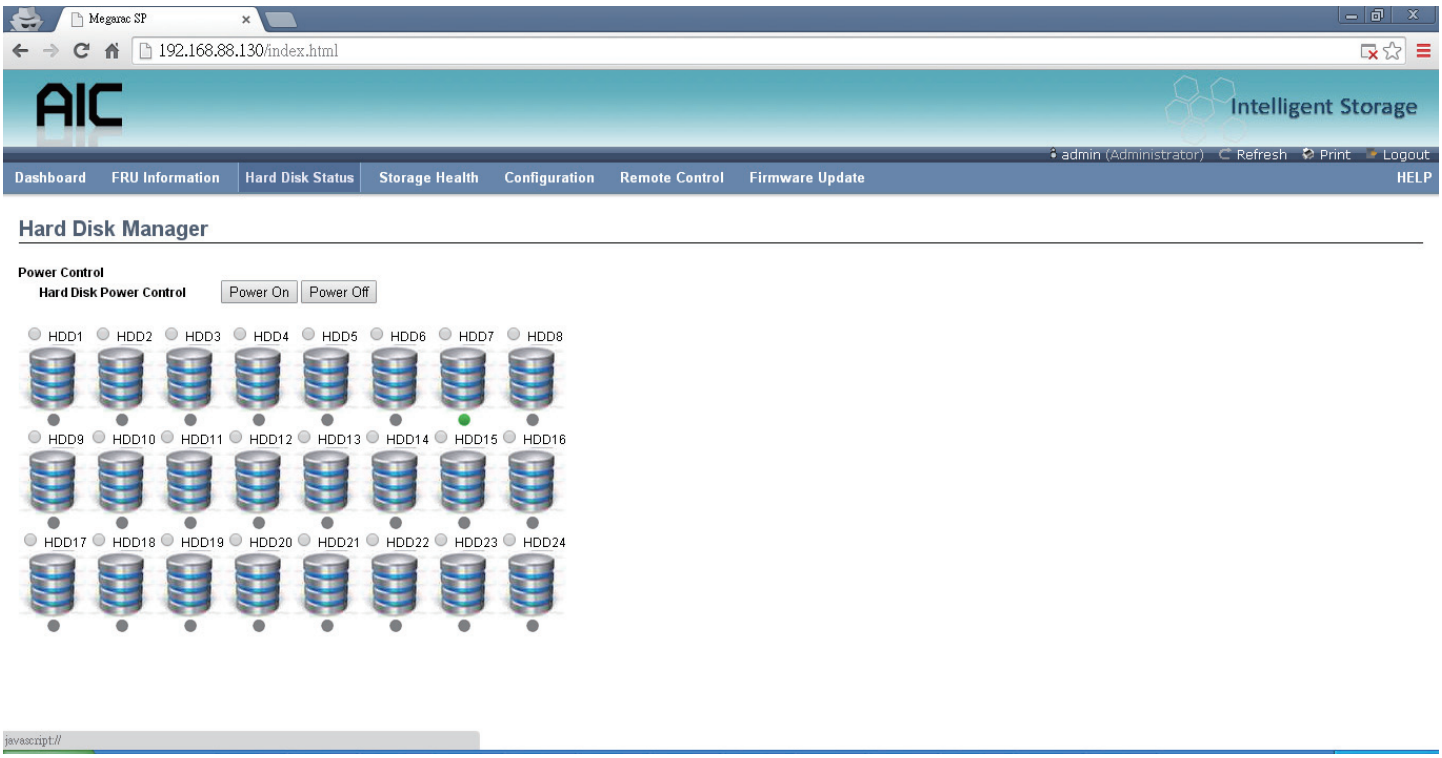
4.5.3 Hard Disk Status

This page displays all the HDD power on/off status, using the "Power On" and "Power Off" button to control HDD status.

ACTIONS

Power On
Select a HDD to turn it power on.
Power off
Select a HDD to turn it power off.
Icon status
Green: This slot inserted HDD and power on.
Blue: This slot inserted HDD and power off.
Red: This slot inserted HDD and got error.
Gray: This slot not inserted HDD.

> NOTE :
> WHEN SELECT A HDD TO POWER ON/OFF, MUST TO REFRESH THIS PAGE FOR GET THE NEW STATUS.



4.5.4 Storage Heath

4.5.4.1 Sensor Readings

A list of sensor readings will be displayed here. Click on a record to show more information about that particular sensor, including thresholds and a graphical representation of all associated events. Double click on a record to toggle (ON / OFF) the live widget for that particular sensor. You can filter the list to view particular sensors only using the drop-down list box.

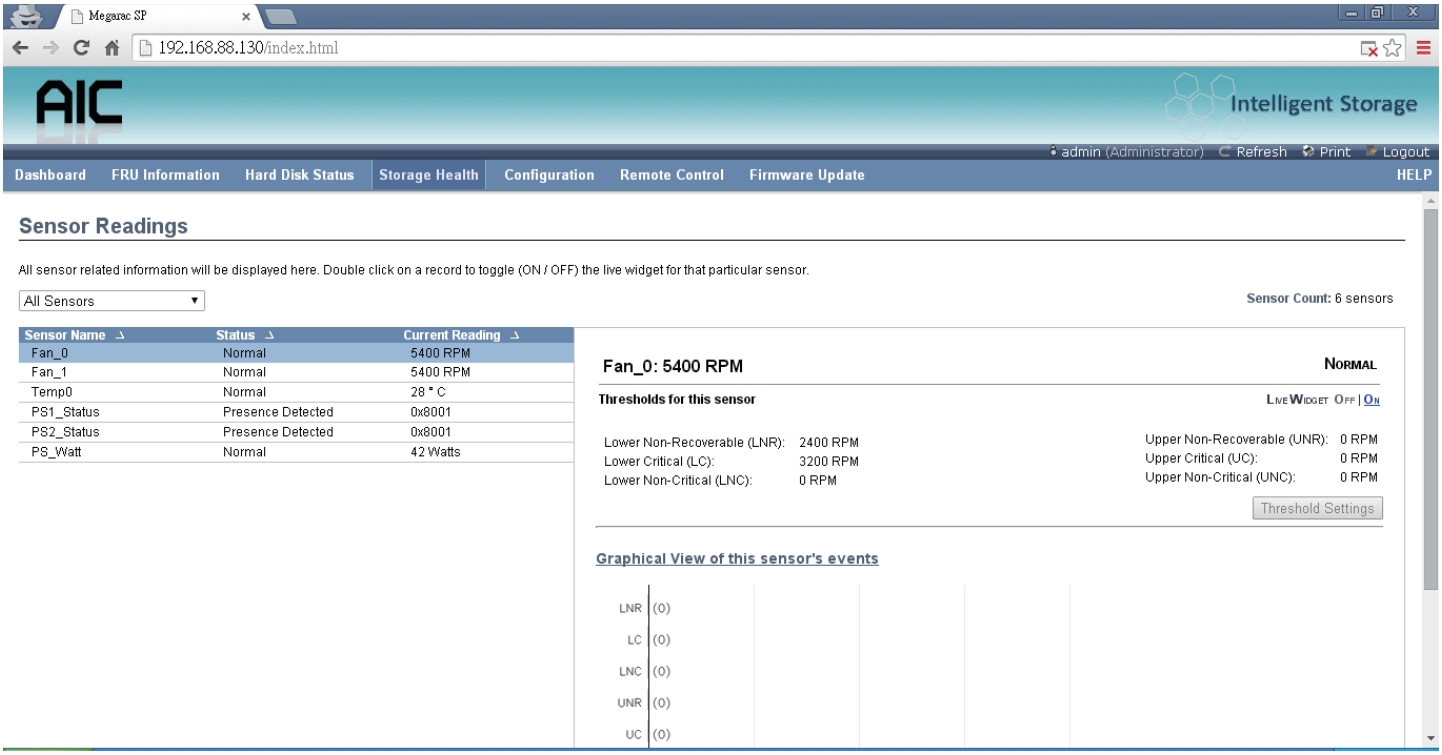
> NOTE :
> N/A REPRESENTS NOT APPLICABLE.

Live Widget

Turn On or Off the live widget for this sensor. This widget gives a dynamic representation of the readings for the sensor.

View this Event Log

Click this button to go the event log page for the viewed sensor.



4.5.4.2 Event Log

This page displays the list of events incurred by different sensors on this device. Double click on a record to see the details of that entry. You can also sort the list of entries by clicking on any of the column headers. You can use the sensor type or sensor name filter options to view those specific events logged in the device.

BMC Timezone

Check this option to display the event log entries logged with the BMC Timezone value.

Client Timezone

Check this option to display the event log entries logged with the Client (user's) Timezone value.

UTC Offset

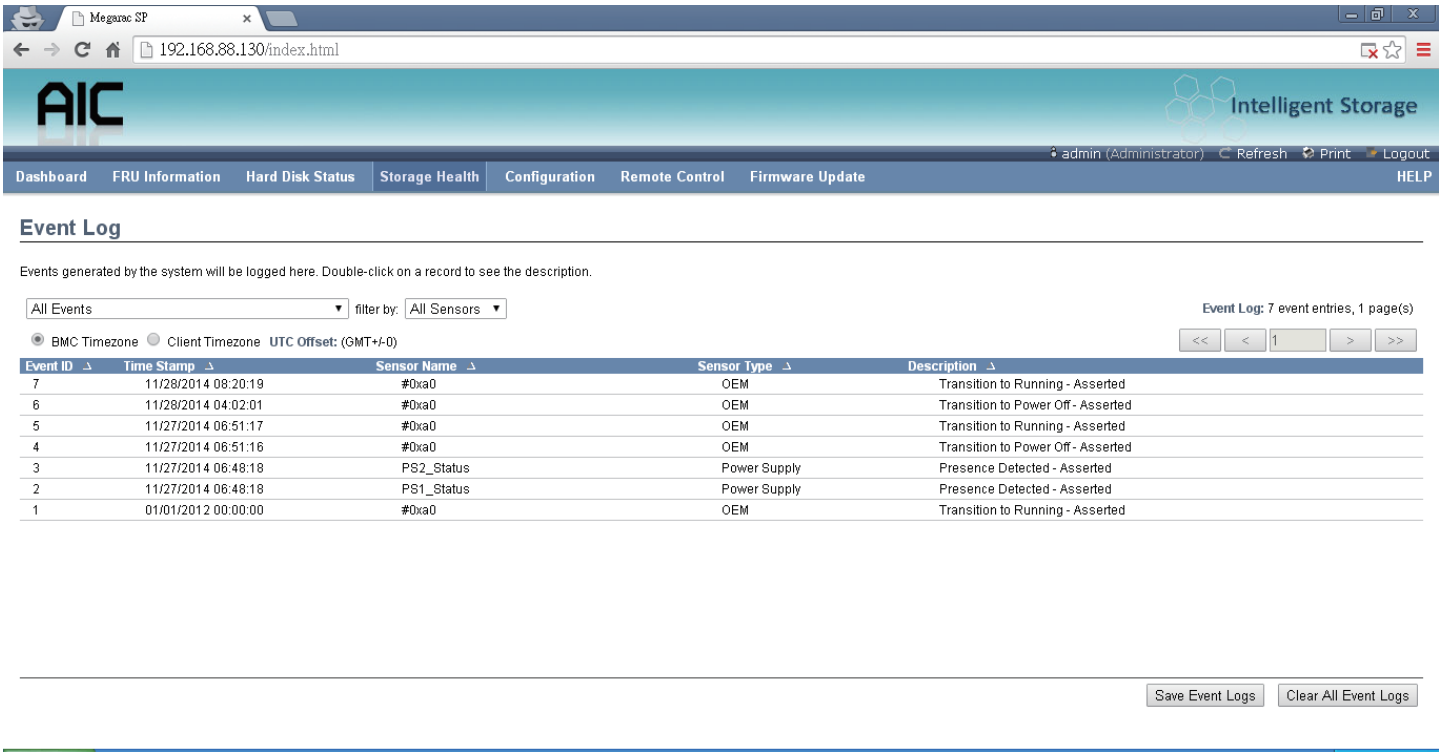
Displays the current UTC Offset value based on which event Time Stamps will be updated. Navigational arrows can be used to selectively access different pages of the Event Log.

Clear All Event Logs

Clear All Event Logs option will delete all existing records for all sensors.

Save All Event Logs

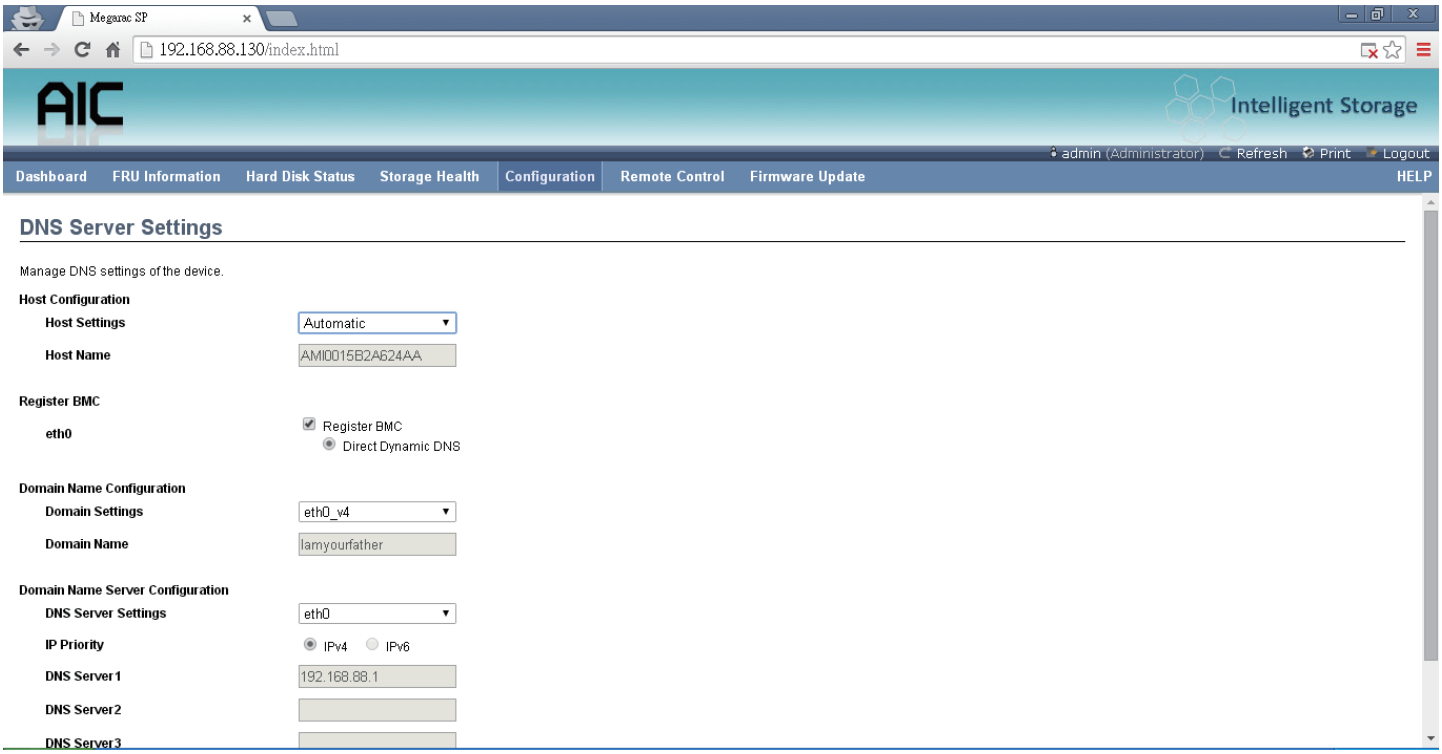
Save All Event Logs option will save all existing records for all sensors.


Megarac SP
192.168.88.130/index.html
AIC
Intelligent Storage
admin (Administrator) Refresh Print Logout
Dashboard FRU Information Hard Disk Status Storage Health Configuration Remote Control Firmware Update HELP
Event Log
Events generated by the system will be logged here. Double-click on a record to see the description.
All Events filter by: All Sensors
Event Log: 7 event entries, 1 page(s)
BMC Timezone Client Timezone UTC Offset: (GMT+/-0)
<< < 1 > >>
Event ID Time Stamp Sensor Name Sensor Type Description
7 11/28/2014 08:20:19 #0xa0 OEM Transition to Running - Asserted
6 11/28/2014 04:02:01 #0xa0 OEM Transition to Power Off - Asserted
5 11/27/2014 06:51:17 #0xa0 OEM Transition to Running - Asserted
4 11/27/2014 06:51:16 #0xa0 OEM Transition to Power Off - Asserted
3 11/27/2014 06:48:18 PS2_Status Power Supply Presence Detected - Asserted
2 11/27/2014 06:48:18 PS1_Status Power Supply Presence Detected - Asserted
1 01/01/2012 00:00:00 #0xa0 OEM Transition to Running - Asserted
Save Event Logs
Clear All Event Logs

4.5.5 Configuration

4.5.5.1 DNS

This page is used to configure the Host name and Domain Name Server configuration of the device.



Host configuration

Host Settings Choose either Automatic or Manual settings.

Host Name It displays the hostname of the device if Auto is selected. If the Host setting is chosen as Manual, then specify the hostname of the device.

Register BMC Choose the BMC's network port to register with the DNS settings. Check the option 'Register BMC' to register with the DNS settings. Choose the option 'Direct Dynamic DNS' to register with direct dynamic DNS or choose 'DHCP Client FQDN' to register through a DHCP server.

Domain Name Configuration

Domain Settings It lists the options for the domain interface as Manual, v4 or v6 for multi LAN channels.

Domain Name It displays the domain name of the device if Auto is selected. If the Domain setting is chosen as Manual, then specify the domain name of the device.

Domain Name Server Configuration

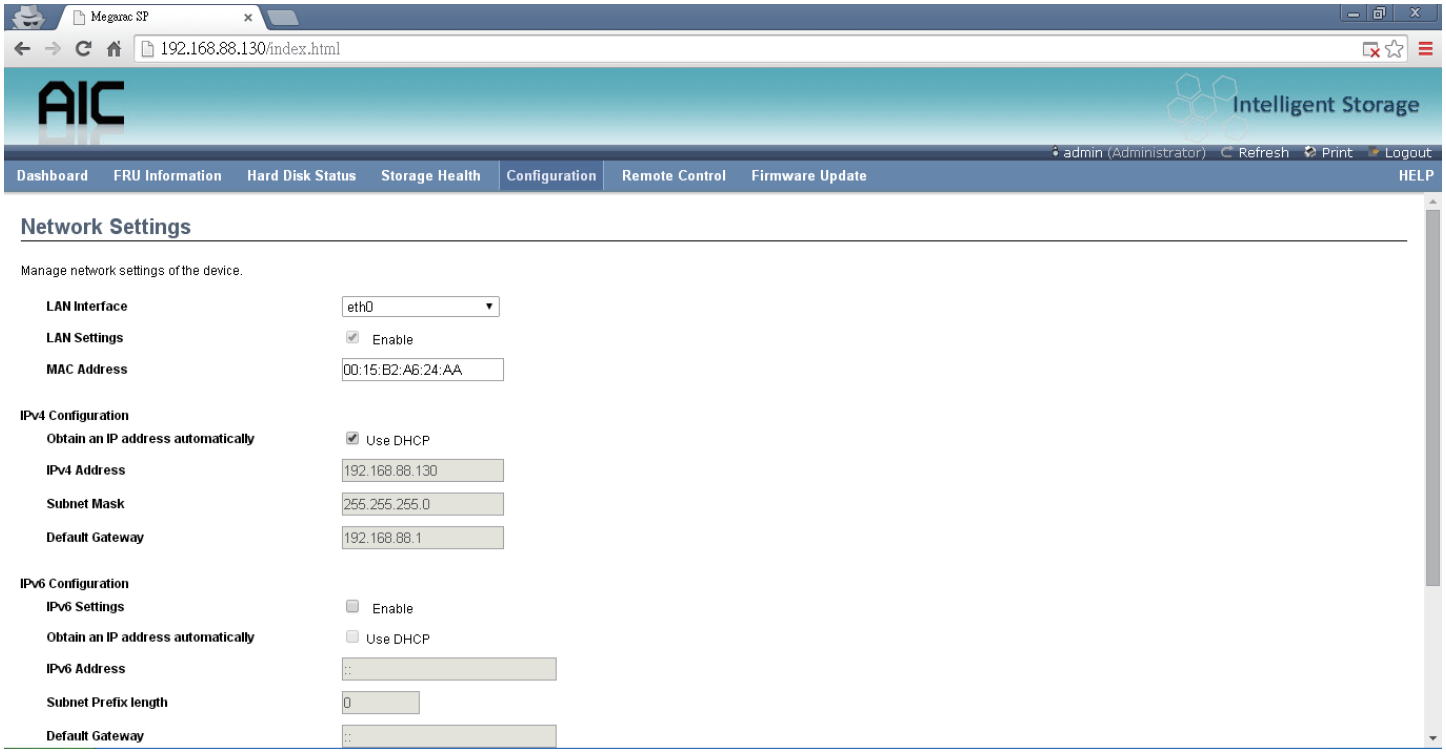
DNS Server Settings It lists the options for the DNS interface, Manual and available LAN interfaces.
IP Priority If the IP Priority is IPv4, it will have 2 IPv4 DNS servers and 1 IPv6 DNS server. If the IP Priority is IPv6, it will have 2 IPv6 DNS servers and 1 IPv4 DNS server.

NOTE :
THIS IS NOT APPLICABLE FOR MANUAL CONFIGURATION.

DNS Server 1, 2 & 3
Specify the DNS (Domain Name System) server address to be configured for the BMC.
• An IPv4 Address is made of 4 numbers separated by dots as in "xxx.xxx.xxx.xxx".
• Each number ranges from 0 to 255.
• The first number must not be 0.
DNS Server Address will support the following:
• IPv4 Address format.
• IPv6 Address format.
Save
Click 'Save' to save any changes made. You will be logged out of current UI session and will need to log back in.
Reset
Reset the modified changes.

4.5.5.2 Network

This page is used to configure the network settings for available LAN channels.



LAN Interface
Select the LAN interface to be configured.
LAN Settings
Check this option to enable LAN support for the selected interface.
MAC Address
This field displays the MAC address of the selected interface (read only).
IPv4 Configuration
It lists the IPv4 configuration settings.
Obtain an IP address automatically
Enable 'Use DHCP' to dynamically configure the IPv4 address using Dynamic Host Configuration Protocol (DHCP).
IPv4 Address, Subnet Mask, Default Gateway
If DHCP is disabled, specify a static IPv4 address, Subnet Mask and Default Gateway to be configured for the selected interface.
• An IP Address consists of 4 sets of numbers separated by dots as in "xxx.xxx.xxx.xxx".
• Each set ranges from 0 to 255.
• The first Number must not be 0.
IPv6 Configuration
It lists the IPv6 configuration settings.

IPv6 Settings

Check this option to enable IPv6 support for the selected interface.

Obtain an IP address automatically

Enable 'Use DHCP' to dynamically configure the IPv4 address using Dynamic Host Configuration Protocol (DHCP).

IPv6 Address

Specify a static IPv6 address to be configured for the selected interface.

Subnet Prefix length

Specify the subnet prefix length for the IPv6 settings.

• Value ranges from 0 to 128.

Default Gateway

Specify the v6 default gateway for IPv6 settings.

Save

Click 'Save' to save any changes made. You will be prompted to log out of the current UI session and log back in at the new IP address.

Reset

Click 'Reset' to reset the modified changes.

4.5.5.3 Network Link

This page is used to configure the network link option for the available network interfaces.

LAN Interface
Select the network interface from the list for which the Link speed and duplex mode are to be configured.

Auto Negotiation
This option is enabled to allow the device to perform automatic configuration to achieve the best possible mode of operation (speed and duplex) over a link.

Link Speed
Link speed will list all the supported capabilities of the network interface. It can be 10/100/1000 Mbps.

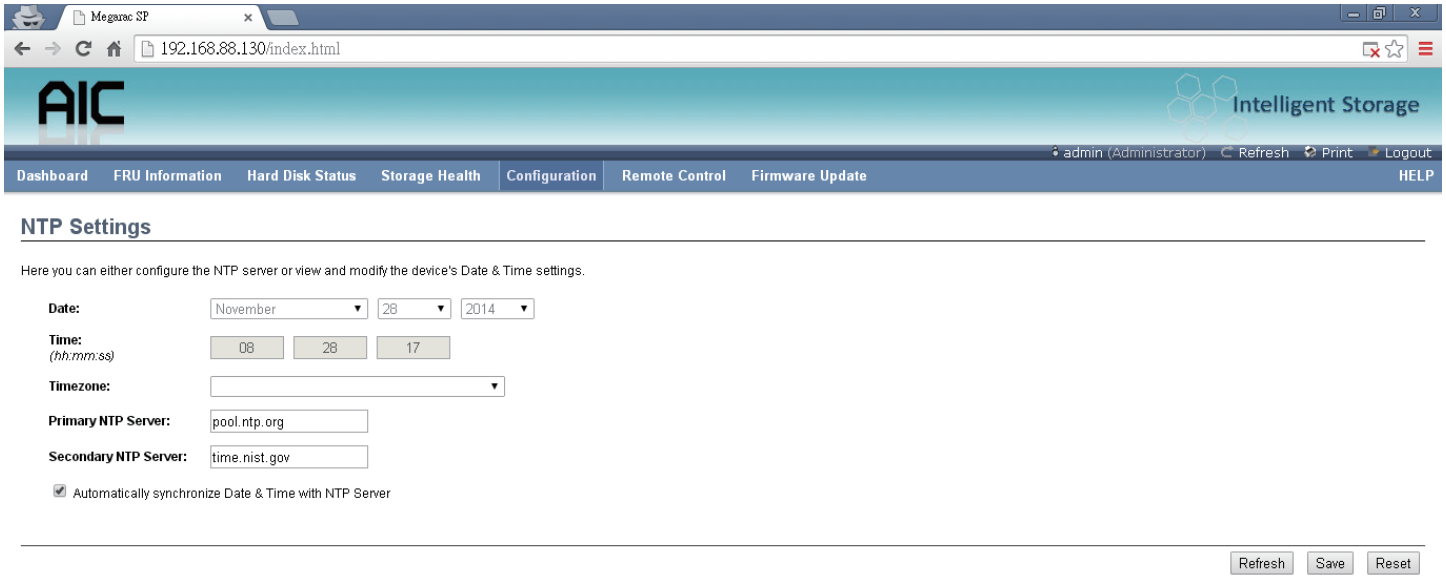
Duplex Mode
Select any one of the following Duplex Modes.
- Half Duplex
- Full Duplex

Save
Click 'Save' to save the settings.

Reset
Click 'Reset' to reset the modified changes.

4.5.5.4 NTP

This page displays the device's current Date & Time Settings. It can be used to configure either Date & Time or NTP (Network Time Protocol) server settings for the device.



Date
Specify the current Date for the device.
Time
Specify the current Time for the device.

> NOTE :
> AS A YEAR 2038 PROBLEM EXISTS, THE ACCEPTABLE DATE RANGE IS FROM 01-01-2005 TO 01-18-2038.

NTP Server
Specify the NTP Server for the device. Check the 'Automatically synchronize' option to configure the NTP Server. The NTP Server will support the following:

- IP Address (Both IPv4 and IPv6 format).
- FQDN (Fully qualified domain name) format.

UTC Offset

UTC Offset list contains the UTC offset values for the NTP server, which can be used to display the exact local time.

> NOTE :
> USE THE CORRECT UTC OFFSET AFTER ADJUSTING FOR DST.
> AUTOMATICALLY SYNCHRONIZE

Check this option to automatically synchronize Date and Time with the NTP Server.

Refresh

Click 'Refresh' to reload the current date & time settings.

Save

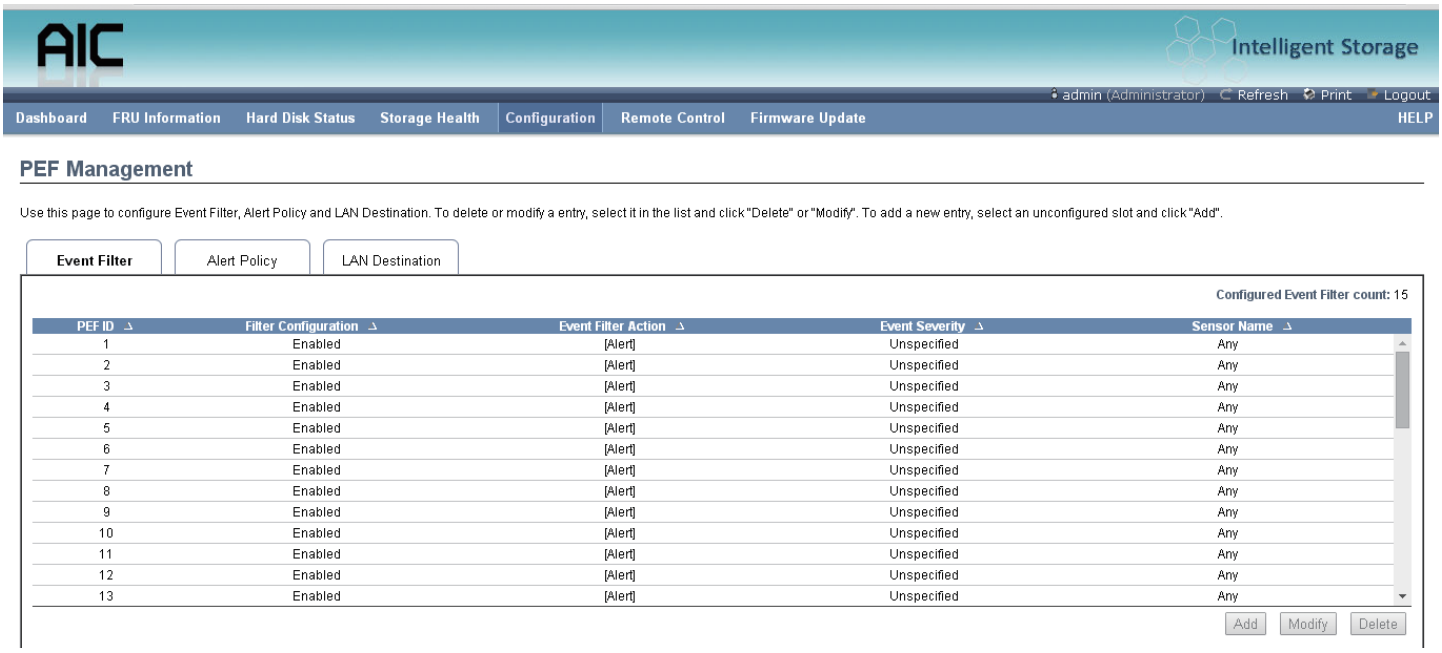
Click 'Save' to save any changes made.

Reset

Click 'Reset' to reset the modified changes.

4.5.5.5 PEF

This page is used to configure the Event Filter, Alert Policy and LAN Destination. To view the page, the user must at least be an Operator. To modify or add a PEF, the user must be an Administrator.


AIC
Intelligent Storage
admin (Administrator) Refresh Print Logout
Dashboard FRU Information Hard Disk Status Storage Health Configuration Remote Control Firmware Update HELP
PEF Management
Use this page to configure Event Filter, Alert Policy and LAN Destination. To delete or modify a entry, select it in the list and click "Delete" or "Modify". To add a new entry, select an unconfigured slot and click "Add".
Event Filter
Alert Policy
LAN Destination
Configured Event Filter count: 15
PEF ID
Filter Configuration
Event Filter Action
Event Severity
Sensor Name
1 Enabled [Alert] Unspecified Any
2 Enabled [Alert] Unspecified Any
3 Enabled [Alert] Unspecified Any
4 Enabled [Alert] Unspecified Any
5 Enabled [Alert] Unspecified Any
6 Enabled [Alert] Unspecified Any
7 Enabled [Alert] Unspecified Any
8 Enabled [Alert] Unspecified Any
9 Enabled [Alert] Unspecified Any
10 Enabled [Alert] Unspecified Any
11 Enabled [Alert] Unspecified Any
12 Enabled [Alert] Unspecified Any
13 Enabled [Alert] Unspecified Any
Add
Modify
Delete

NOTE :

FREE SLOTS ARE DENOTED BY '~' IN ALL COLUMNS FOR THE SLOT. FOR MORE INFORMATION, REFER THE PLATFORM EVENT FILTERING (PEF) SECTION IN IPMI SPECIFICATION.

Event Filter

Click the Event Filter tab to show configured Event filters and available slots. You can modify or add new event filter entries here. A maximum of 40 slots are available and include the default of 15 event filter configurations.

Alert Policy

Click the Alert policy tab to show configured Alert policies and available slots. You can modify or add new alert policy entries here. A maximum of 60 slots are available.

LAN Destination

Click the LAN Destination tab to show configured LAN destinations and available slots. You can modify or add new LAN destination entries here. A maximum of 15 slots are available

Send Test Alert

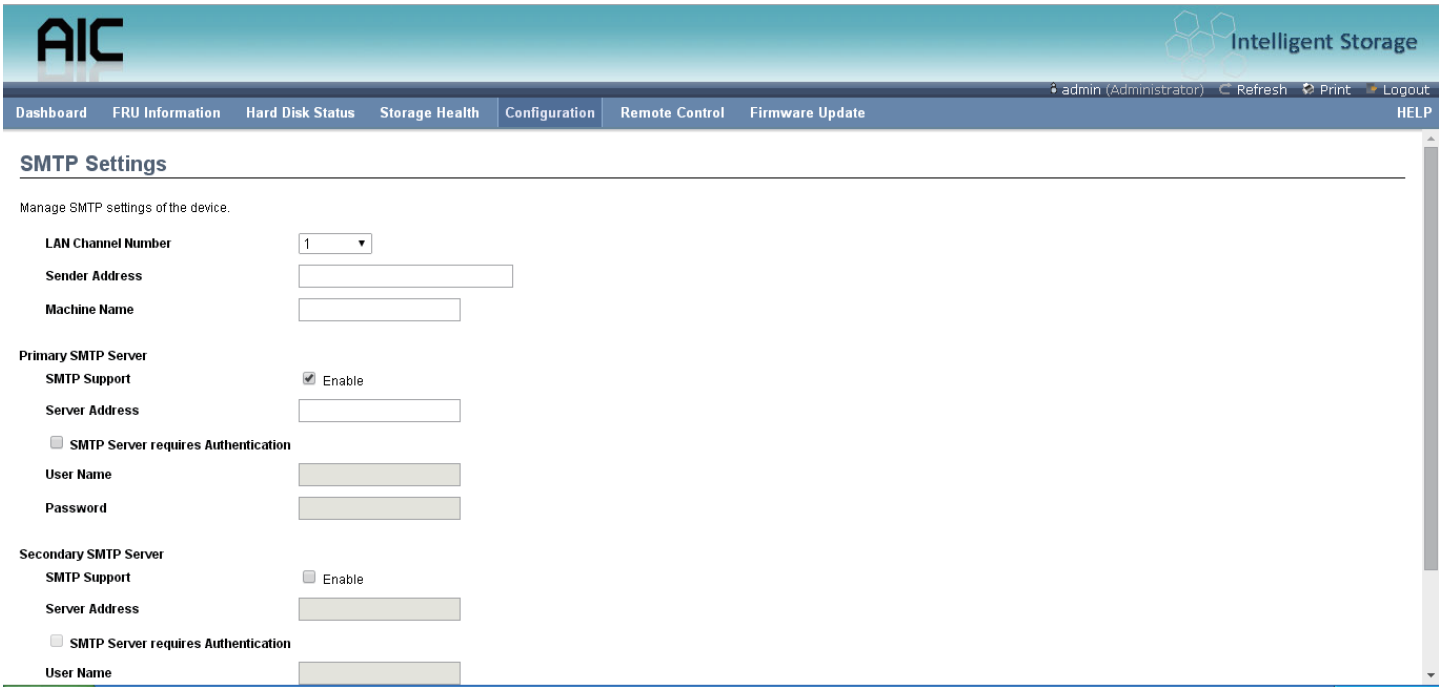
Select a configured slot in the LAN Destination tab and click 'Send Test Alert' to send a sample alert to the configured destination.

NOTE :
TEST ALERTS CAN BE SENT ONLY WITH SMTP CONFIGURATIONS SET TO ENABLED. SMTP SUPPORT CAN BE ENABLED UNDER CONFIGURATION->SMTP.

Add
Select a free slot and click 'Add' to add a new entry to the device. Alternatively, double click on a free slot.
Modify
Select a configured slot and click 'Modify' to modify that entry. Alternatively, double click on the configured slot.
Delete
Select the desired configured slot to be deleted and click 'Delete'.

4.5.5.6 SMTP

This page is used to configure the SMTP settings.



LAN Channel Number

Select the LAN channel to which the SMTP information needs to be configured.

Sender Address

Enter the 'Sender Address' valid on the SMTP Server.

Machine Name

Enter the 'Machine Name' of the SMTP Server.

- Machine Name is a string of maximum 15 alpha-numeric characters.
- Space, special characters are not allowed.

Primary SMTP Server

It lists the Primary SMTP Server configuration.

SMTP Support

Check this option to enable SMTP support for the BMC.

Server Address

Enter the 'IP address' of the SMTP Server. It is a mandatory field.

- An IP Address is made of 4 numbers separated by dots as in "xxx.xxx.xxx.xxx".
- Each Number ranges from 0 to 255.
- The first Number must not be 0.

The server address will support the following:

- IPv4 Address format.
- IPv6 Address format.

SMTP Server requires Authentication

Check the option 'Enable' to enable SMTP Authentication.

NOTE :

SMTP Server Authentication Types supported are:

- CRAM-MD5
- LOGIN
- PLAIN

If the SMTP server does not support any one of the above authentication types, the user will get an error message stating, "Authentication type is not supported by SMTP Server"

Username

Enter the username to access SMTP Accounts.

- The User Name can be 4 to 64 alpha-numeric characters.
- It must start with an alphabet.
- Special characters ',' (comma), ':' (colon), ';' (semicolon), ' ' (space) and '\' (backslash) are not allowed.

Password

Enter the password for the SMTP User Account.

- Passwords must be at least 4 characters long.
- Space is not allowed.

NOTE :

This field will not allow more than 64 characters.

Secondary SMTP Server

It lists the Secondary SMTP Server configuration. It is an optional field. If the Primary SMTP server is not working, then it tries the Secondary SMTP Server configuration.

Save

Click 'Save' to save the new SMTP server configuration.

Reset

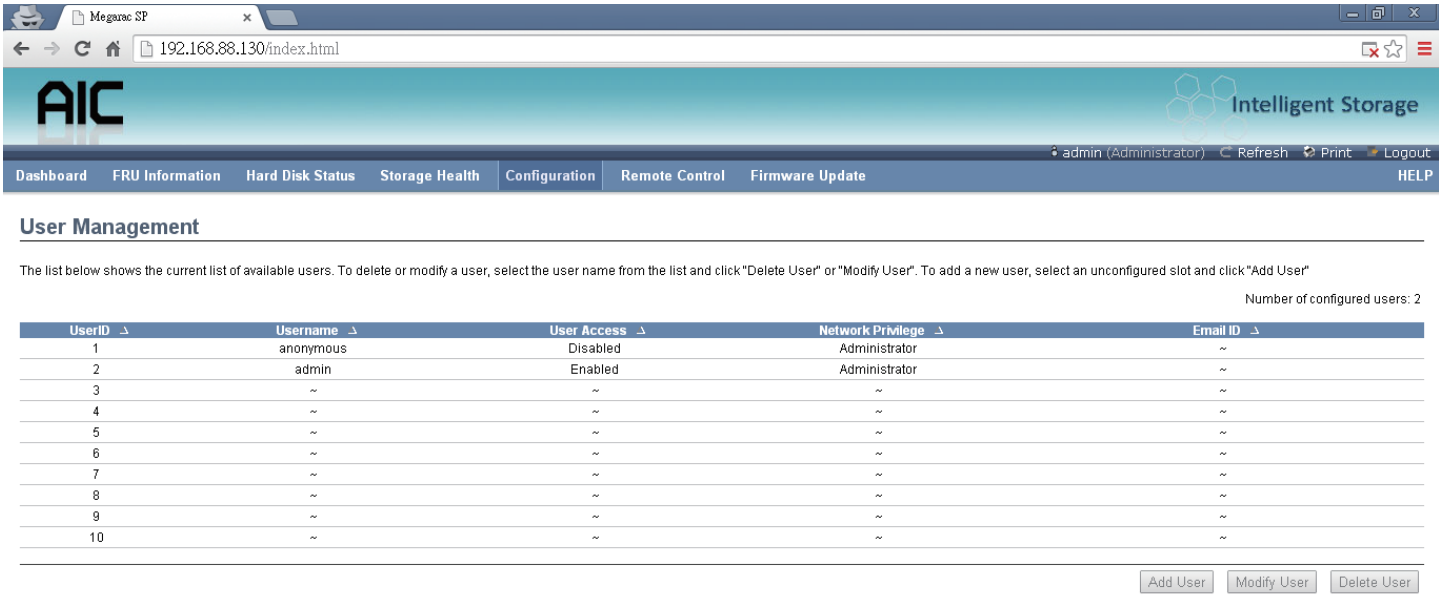
Click 'Reset' to reset the modified changes.

4.5.5.7 User

The displayed table shows any configured Users and available slots. You can modify or add new users from here. A maximum of 10 slots are available, including the default admin and anonymous. It is advised that the anonymous user's privilege and password should be modified as a security measure. To view the page, you must have Operator privileges. To modify or add a user, You must have Administrator privileges.

> NOTE :
> FREE SLOTS ARE DENOTED BY "~" IN ALL COLUMNS FOR THE SLOT.

Add User
Select a free slot and click 'Add User' to add a new user to the device. Alternatively, double click on a free slot to add a user.
Modify User
Select a configured slot and click 'Modify User' to modify that user. Alternatively, double click on the configured slot.
Delete User
Select the desired user to be deleted and click 'Delete User'


Megarac SP
192.168.88.130/index.html
AIC
Intelligent Storage
admin (Administrator) Refresh Print Logout
Dashboard FRU Information Hard Disk Status Storage Health Configuration Remote Control Firmware Update HELP
User Management
The list below shows the current list of available users. To delete or modify a user, select the user name from the list and click "Delete User" or "Modify User". To add a new user, select an unconfigured slot and click "Add User"
Number of configured users: 2
UserID Username User Access Network Privilege Email ID
1 anonymous Disabled Administrator ~
2 admin Enabled Administrator ~
3 ~ ~ ~ ~
4 ~ ~ ~ ~
5 ~ ~ ~ ~
6 ~ ~ ~ ~
7 ~ ~ ~ ~
8 ~ ~ ~ ~
9 ~ ~ ~ ~
10 ~ ~ ~ ~
Add User
Modify User
Delete User

4.5.6 Remote Control

4.5.6.1 Storage power control

This page helps you to view or perform any host power cycle operations.

Reset Expander

Select this option to reboot the expander without powering off (warm boot).

Power Off Storage

Select this option to immediately power off the storage.

Power On Storage

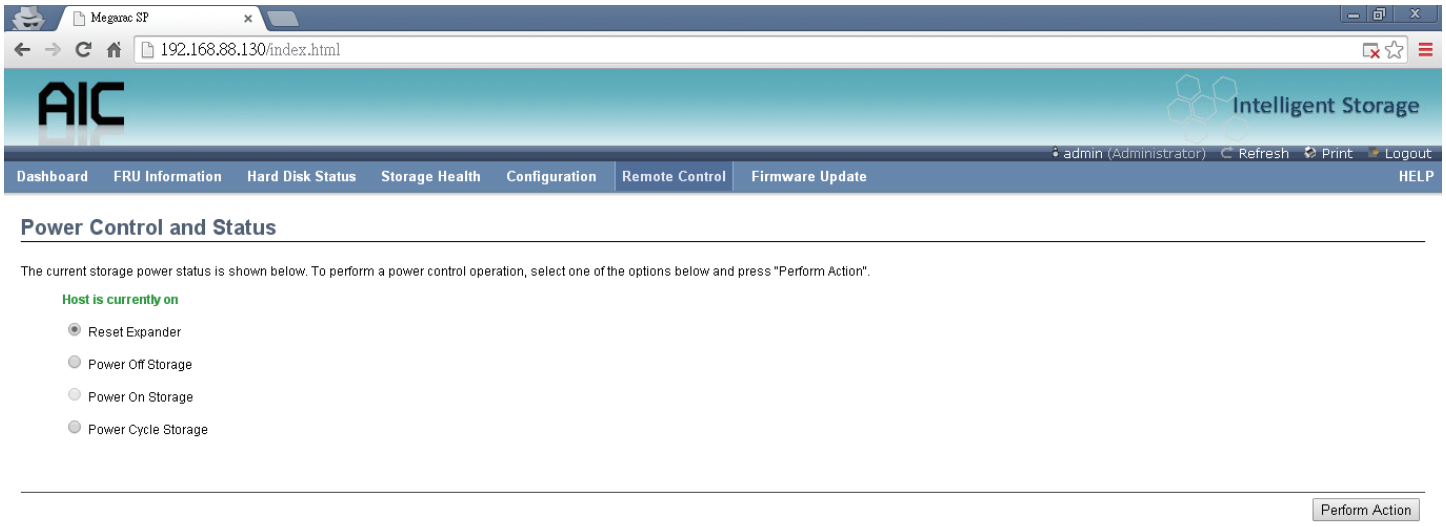
Select this option to power on the storage.

Power Cycle Storage

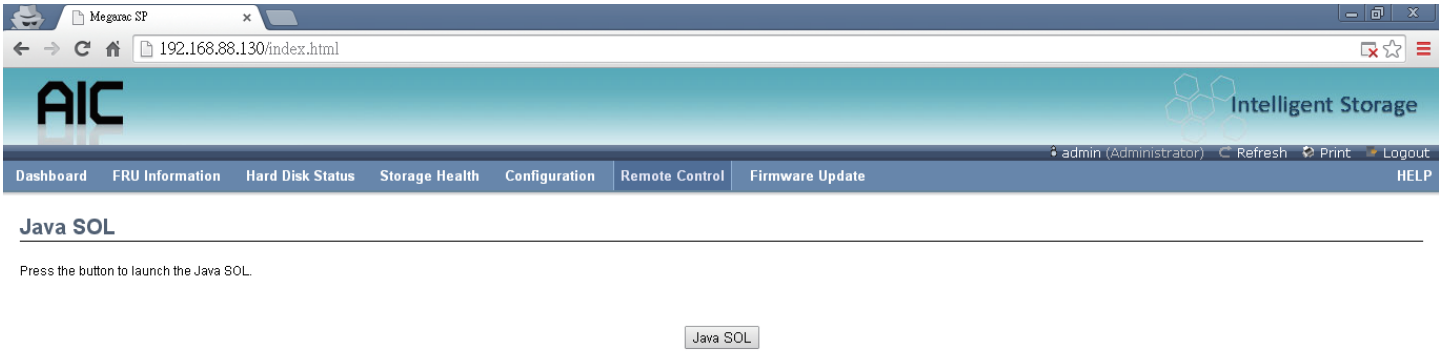
Select this option to first power off, and then reboot the system (cold boot).

Perform Action

Click 'Perform Action' to perform the selected option.

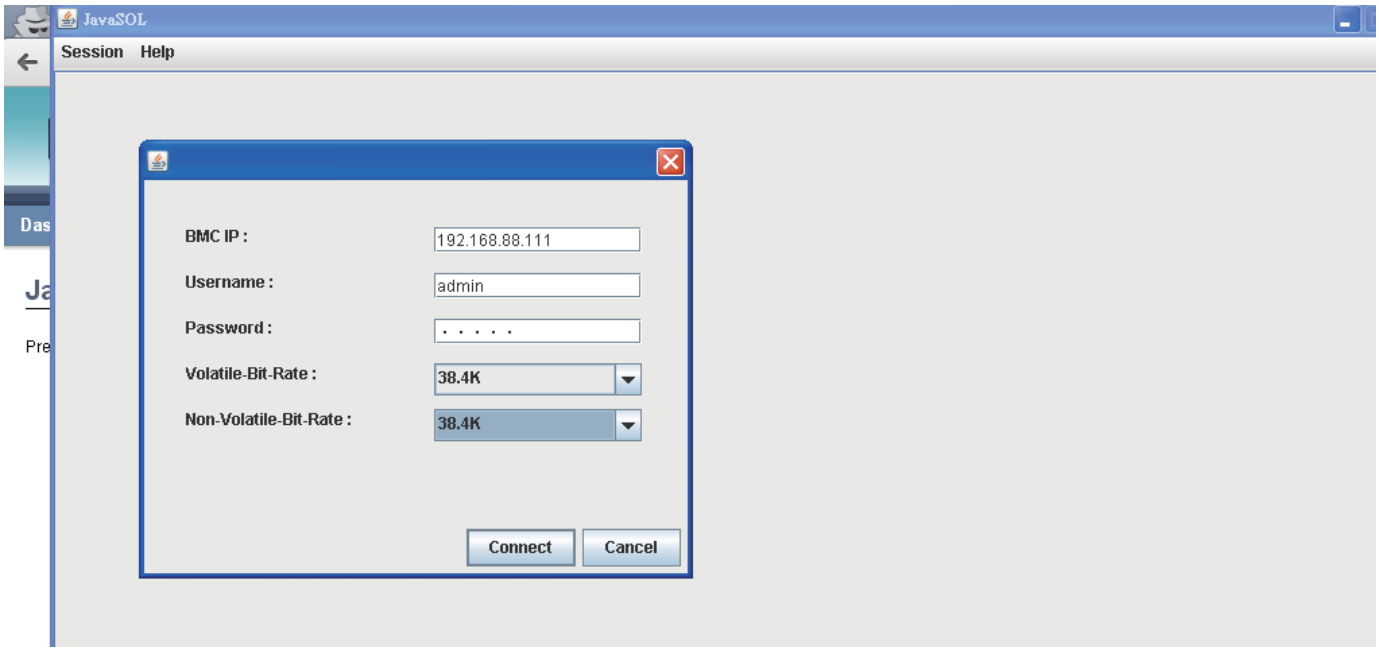


4.5.6.2 JAVA SOL


Megarac SP
192.168.88.130/index.html
AIC
Intelligent Storage
admin (Administrator) Refresh Print Logout
Dashboard FRU Information Hard Disk Status Storage Health Configuration Remote Control Firmware Update HELP
Java SOL
Press the button to launch the Java SOL.
Java SOL

Launch the Java SOL, you must have Administrator privileges.

> NOTE :
> A COMPATIBLE JRE MUST BE INSTALLED IN THE SYSTEM PRIOR TO THE LAUNCH OF THE JNLP FILE.



Volatile-Bit-Rate
Please set 38.4K
Non-Volatile-Bit-Rate
Please set 38.4K
This function can connect to expander command line mode.

4.6 Firmware Update

4.6.1 Requirement

Browsers:

FireFox 24.0 or later version
Chrome 35.0 or later version
I.E. 7.0 or later version

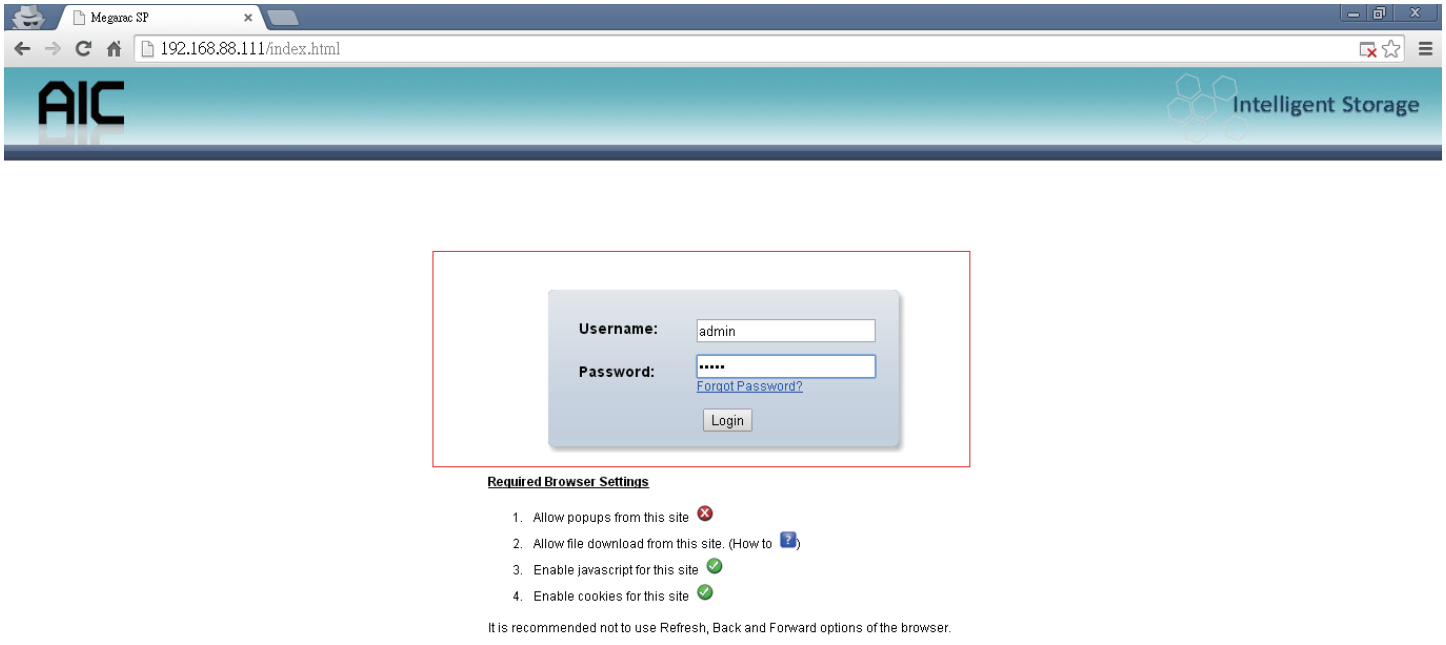
Linux:

Redhat 6.4

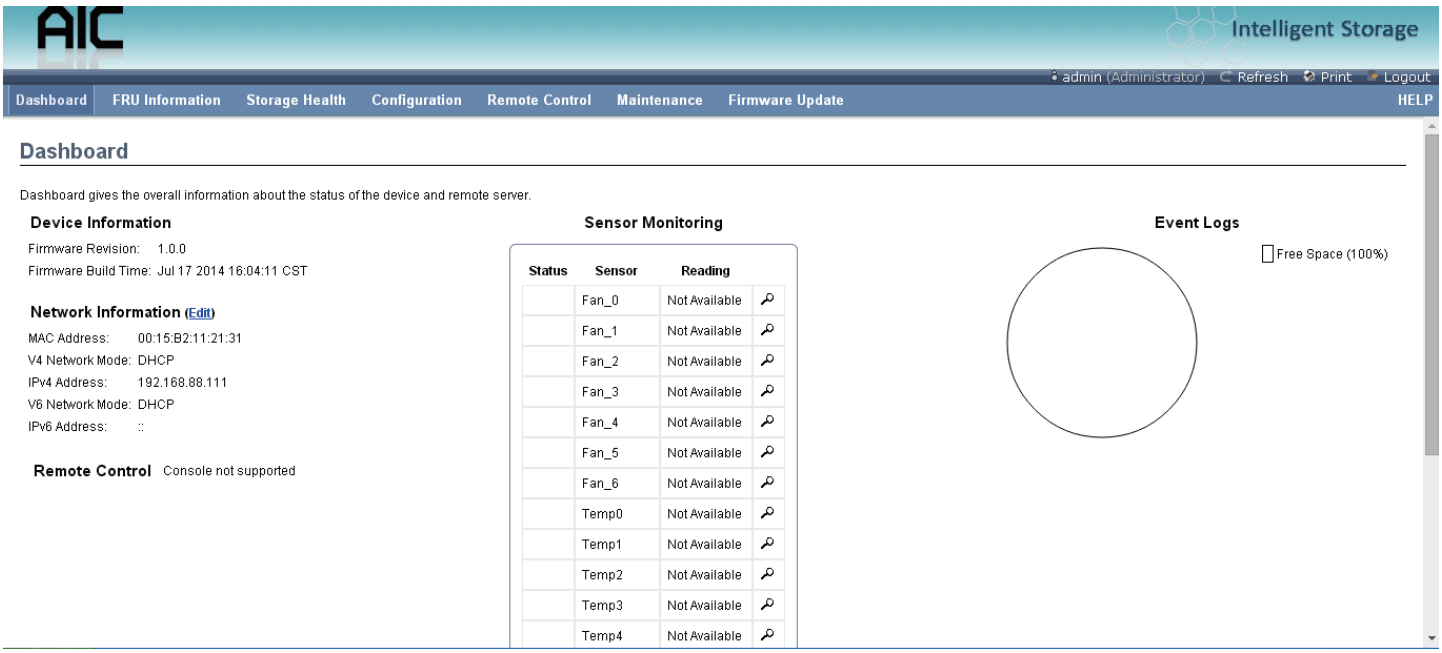
> NOTE :
> IF YOU WANT TO UPDATE A NEW VERSION FIRMWARE FOR BMC, WHEN FINISHED ALL THE UPDATE PROCESS, PLEASE CLEAR THE WEB BROWSER COOKIES.

4.6.2 Web update

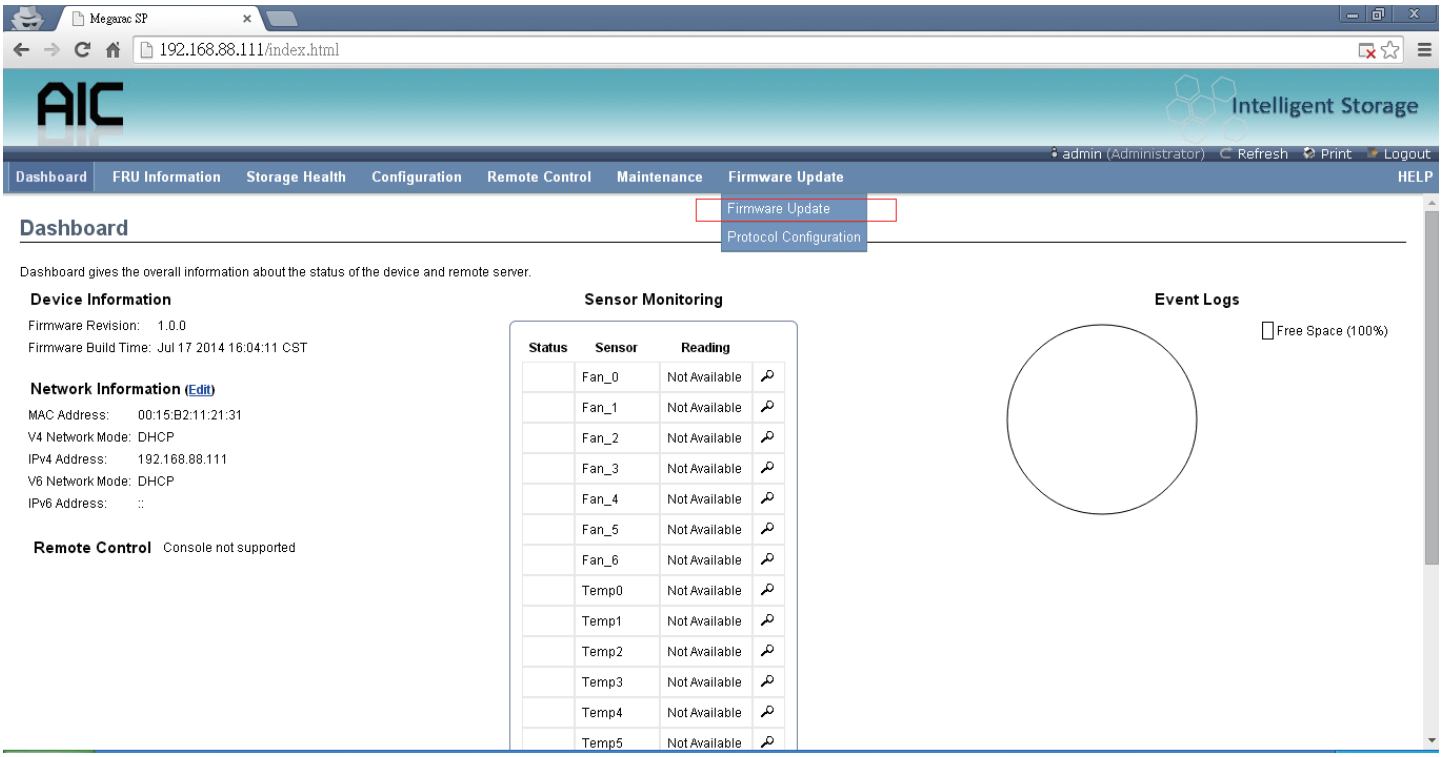
1. Check the BMC IP is valid.
2. Open a browser, type in the BMC IP, it will show the BMC web UI, type the default account, or have administrator privileges account.
   Username: admin
   Password: admin



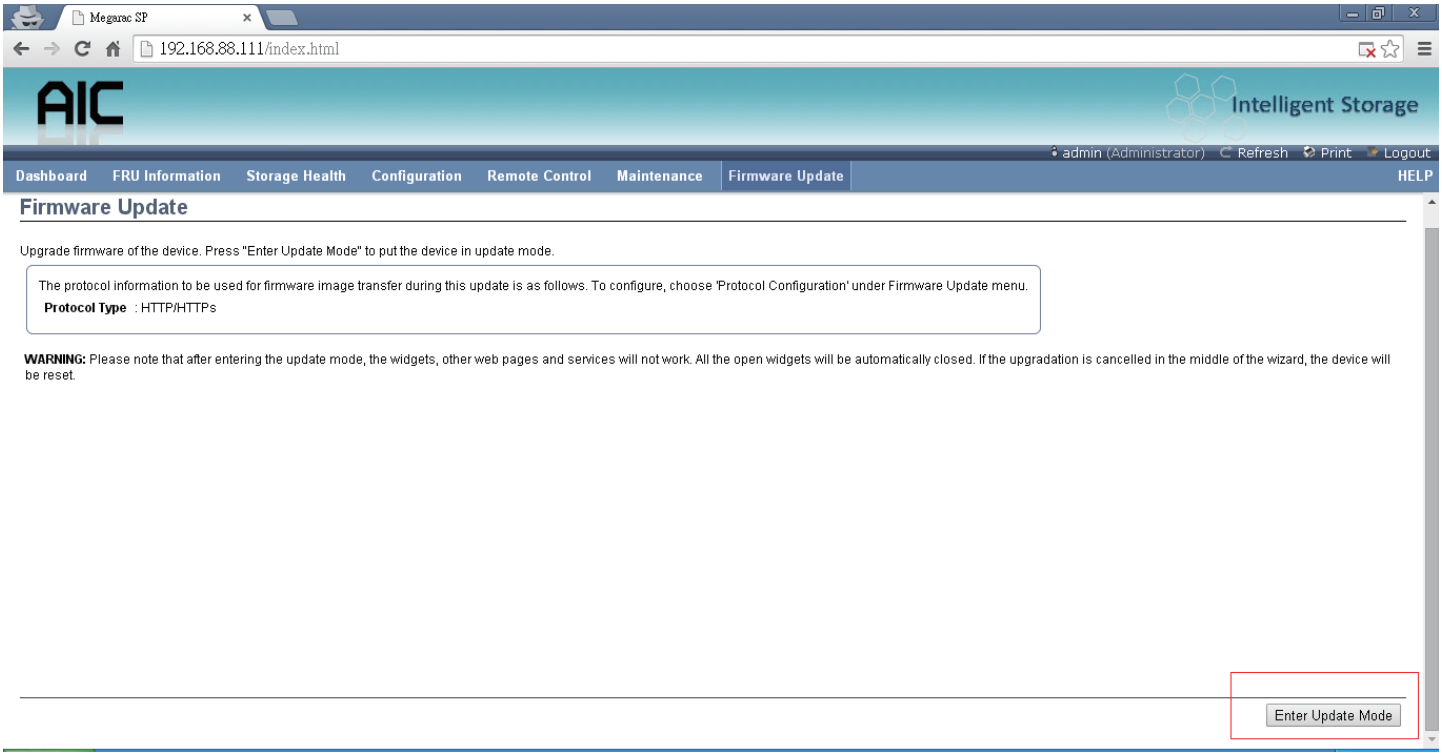
3. This is login main page.



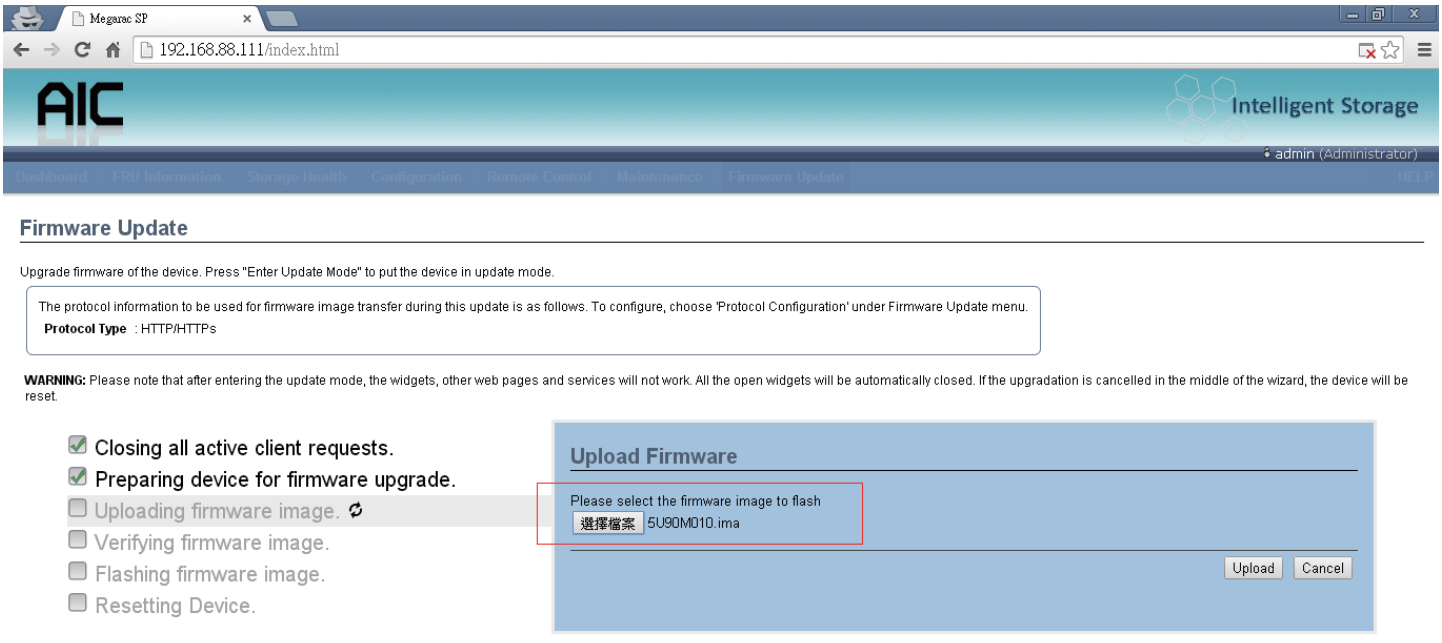
4. Click the "Firmware Update", it will pop a drop-down menu, click the "Firmware Update"



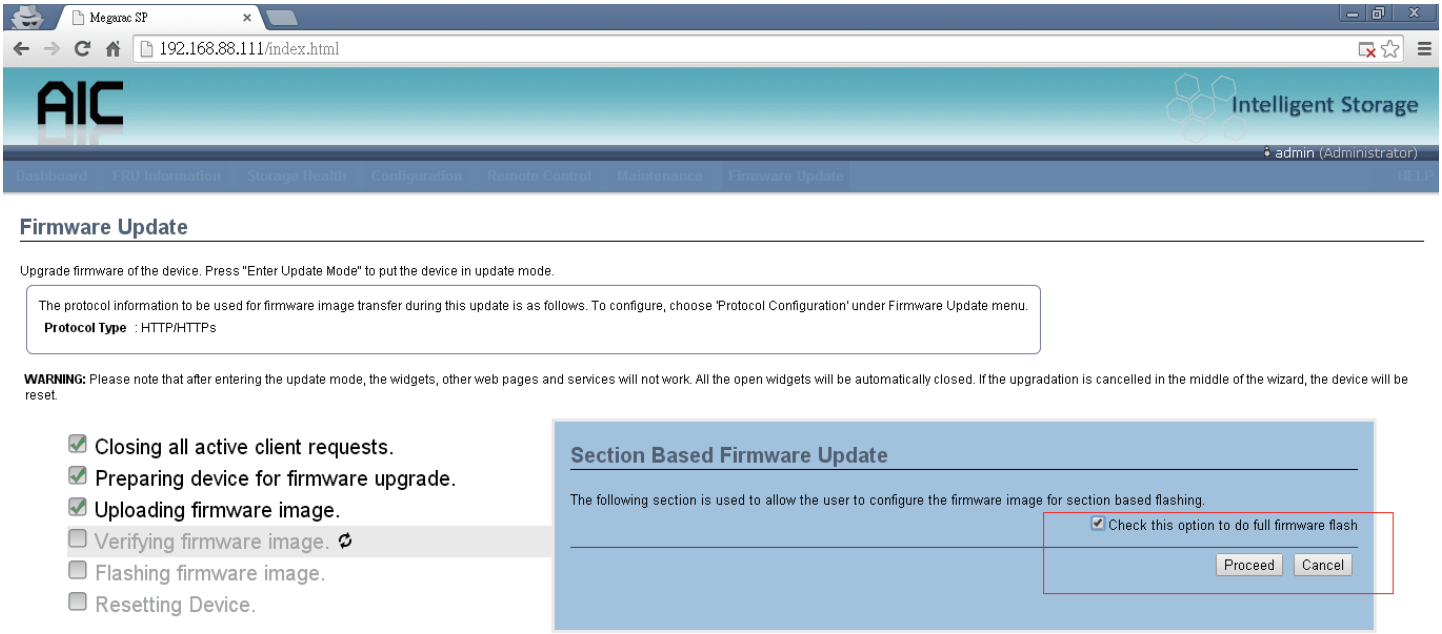
5. This page will show the update warning, if you really want to update BMC firmware, click the “Enter Update Mode” button.


Megarac SP
192.168.88.111/index.html
Intelligent Storage
admin (Administrator) Refresh Print Logout
Dashboard FRU Information Storage Health Configuration Remote Control Maintenance Firmware Update HELP
Firmware Update
Upgrade firmware of the device. Press "Enter Update Mode" to put the device in update mode.
The protocol information to be used for firmware image transfer during this update is as follows. To configure, choose 'Protocol Configuration' under Firmware Update menu.
Protocol Type : HTTP/HTTPs
WARNING: Please note that after entering the update mode, the widgets, other web pages and services will not work. All the open widgets will be automatically closed. If the upgradation is cancelled in the middle of the wizard, the device will be reset.
Enter Update Mode

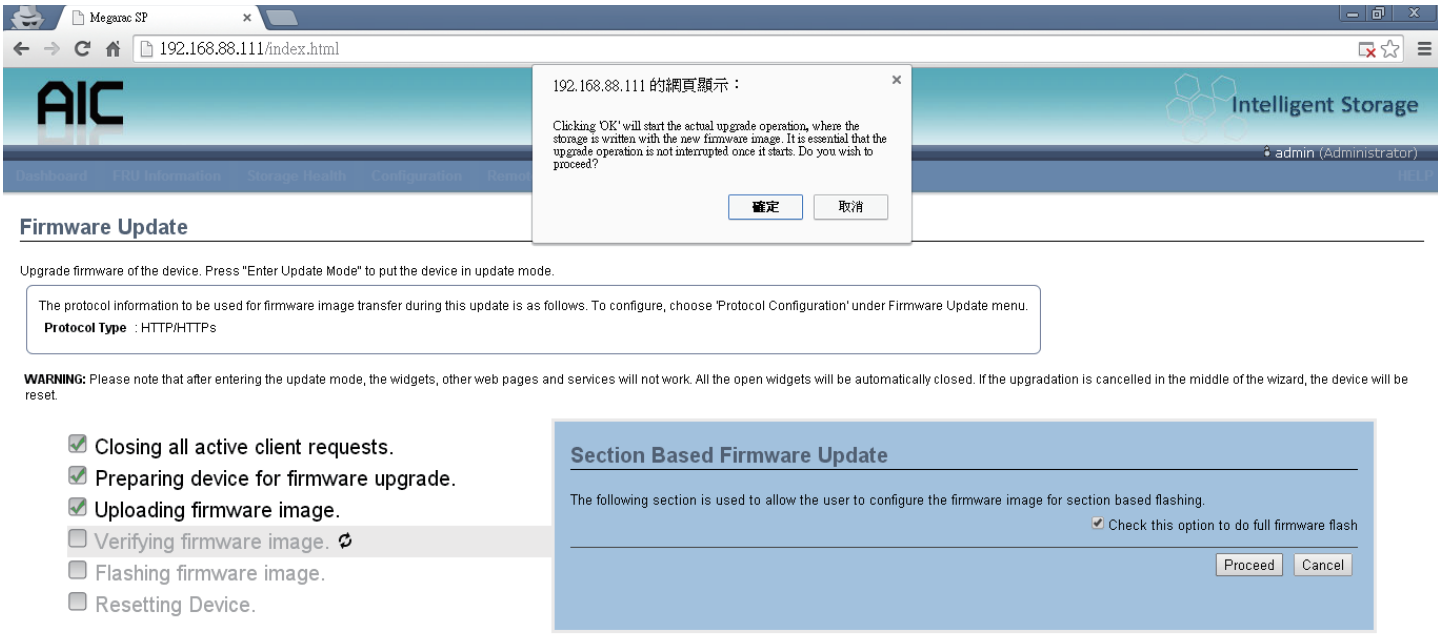
6. Wait few minutes, it will pop a window, click the “Select file” to upload firmware file that you want update.


Megarac SP
192.168.88.111/index.html
Intelligent Storage
admin (Administrator)
Firmware Update
Upgrade firmware of the device. Press "Enter Update Mode" to put the device in update mode.
The protocol information to be used for firmware image transfer during this update is as follows. To configure, choose 'Protocol Configuration' under Firmware Update menu.
Protocol Type : HTTP/HTTPs
WARNING: Please note that after entering the update mode, the widgets, other web pages and services will not work. All the open widgets will be automatically closed. If the upgradation is cancelled in the middle of the wizard, the device will be reset.
Closing all active client requests.
Preparing device for firmware upgrade.
Uploading firmware image.
Verifying firmware image.
Flashing firmware image.
Resetting Device.
Upload Firmware
Please select the firmware image to flash
選擇檔案 5U90M010.ima
Upload
Cancel

7. Wait a minutes, it will pop a window for check update section, just check the “Check this option to do all full firmware flash” option.

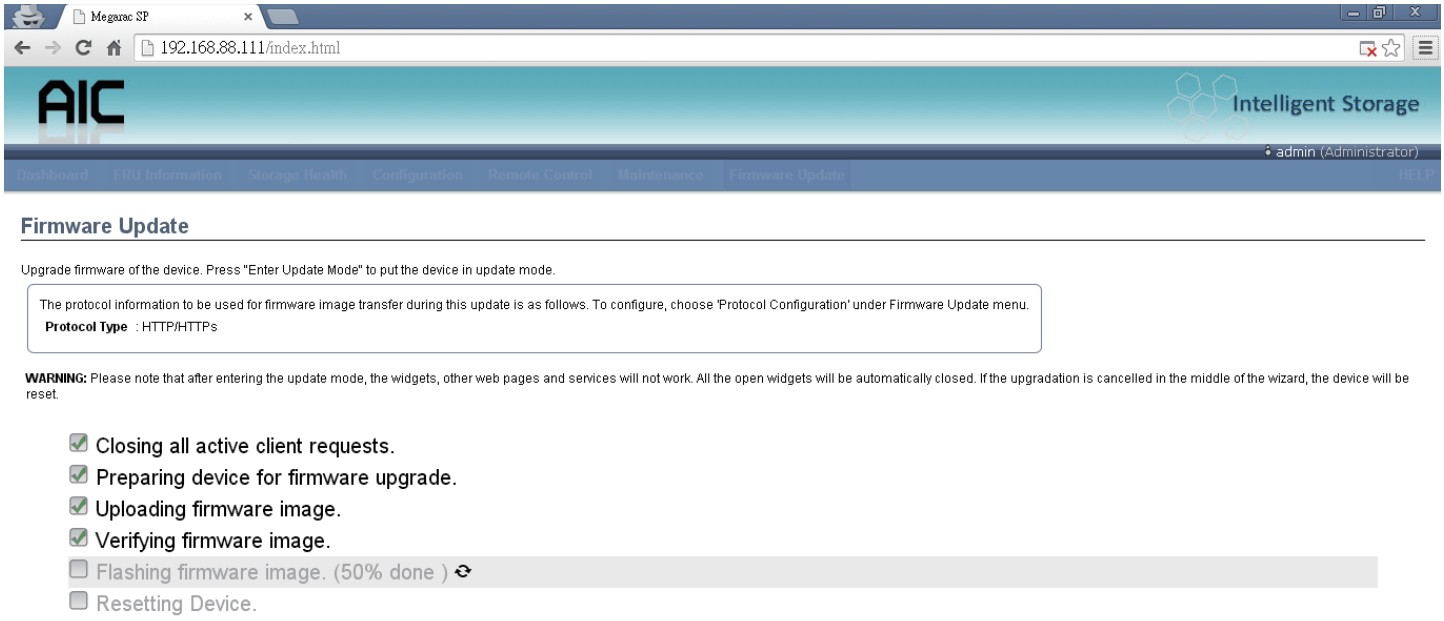

Megarac SP
192.168.88.111/index.html
Intelligent Storage
admin (Administrator)
Dashboard
FRU Information
Storage Health
Configuration
Remote Control
Maintenance
Firmware Update
HELP
Firmware Update
Upgrade firmware of the device. Press "Enter Update Mode" to put the device in update mode.
The protocol information to be used for firmware image transfer during this update is as follows. To configure, choose 'Protocol Configuration' under Firmware Update menu.
Protocol Type : HTTP/HTTPs
WARNING: Please note that after entering the update mode, the widgets, other web pages and services will not work. All the open widgets will be automatically closed. If the upgradation is cancelled in the middle of the wizard, the device will be reset.
Closing all active client requests.
Preparing device for firmware upgrade.
Uploading firmware image.
Verifying firmware image.
Flashing firmware image.
Resetting Device.
Section Based Firmware Update
The following section is used to allow the user to configure the firmware image for section based flashing.
Check this option to do full firmware flash
Proceed
Cancel

8. Click “OK” the firmware will started update operation.

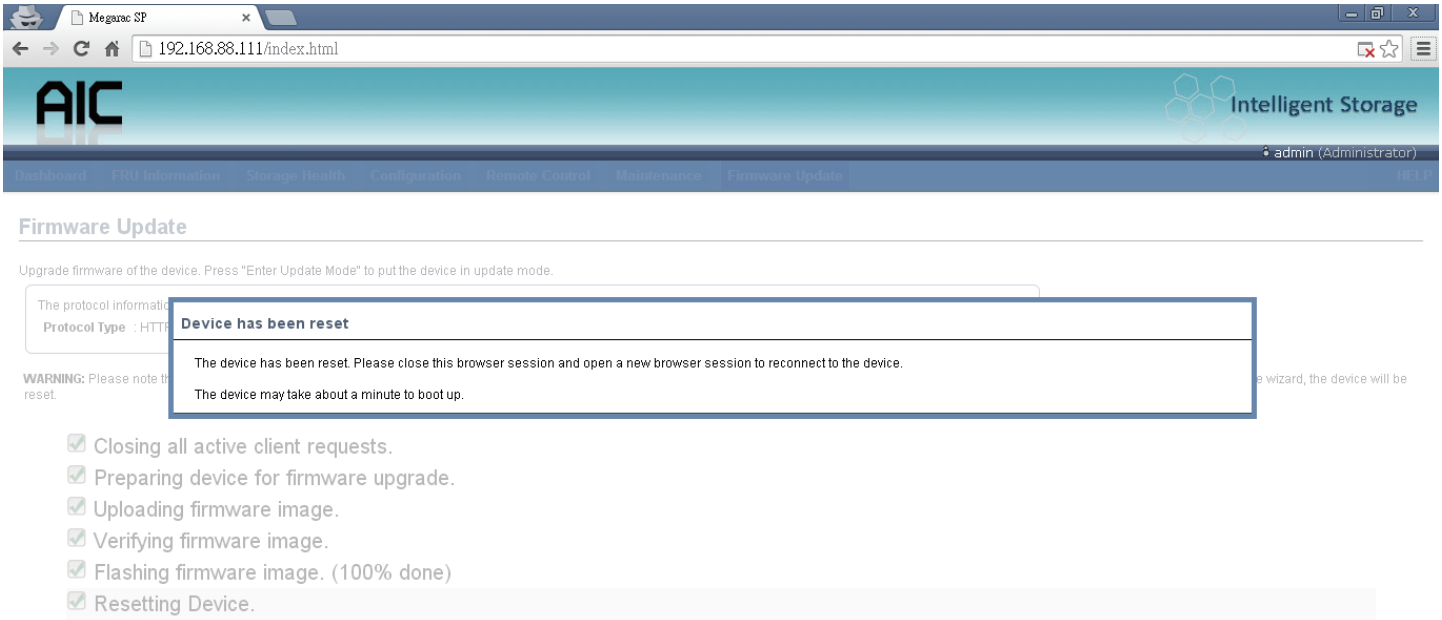

Megarac SP
192.168.88.111/index.html
192.168.88.111 的網頁顯示：
Clicking 'OK' will start the actual upgrade operation, where the storage is written with the new firmware image. It is essential that the upgrade operation is not interrupted once it starts. Do you wish to proceed?
確定
取消
Intelligent Storage
admin (Administrator)
Firmware Update
Upgrade firmware of the device. Press "Enter Update Mode" to put the device in update mode.
The protocol information to be used for firmware image transfer during this update is as follows. To configure, choose 'Protocol Configuration' under Firmware Update menu.
Protocol Type : HTTP/HTTPs
WARNING: Please note that after entering the update mode, the widgets, other web pages and services will not work. All the open widgets will be automatically closed. If the upgradation is cancelled in the middle of the wizard, the device will be reset.
Closing all active client requests.
Preparing device for firmware upgrade.
Uploading firmware image.
Verifying firmware image.
Flashing firmware image.
Resetting Device.
Section Based Firmware Update
The following section is used to allow the user to configure the firmware image for section based flashing.
Check this option to do full firmware flash
Proceed
Cancel

9. In the update processes, it will take 3~5 minutes.

> **CAUTION:**
> **PLEASE DO NOT CLOSE THIS WEBPAGE!! OR IT WILL LET THE FIRMWARE DEATH**

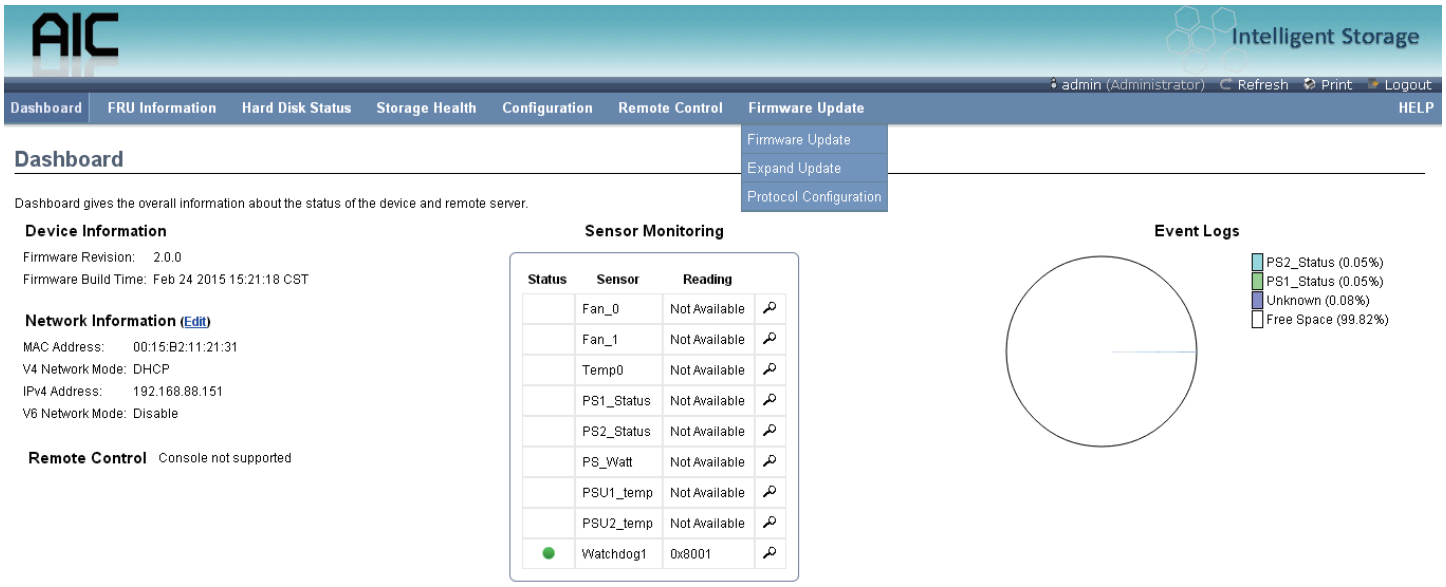

Megarac SP
192.168.88.111/index.html
AIC
Intelligent Storage
admin (Administrator)
Dashboard
FRU Information
Storage Health
Configuration
Remote Control
Maintenance
Firmware Update
HELP
Firmware Update
Upgrade firmware of the device. Press "Enter Update Mode" to put the device in update mode.
The protocol information to be used for firmware image transfer during this update is as follows. To configure, choose 'Protocol Configuration' under Firmware Update menu.
Protocol Type : HTTP/HTTPs
WARNING: Please note that after entering the update mode, the widgets, other web pages and services will not work. All the open widgets will be automatically closed. If the upgradation is cancelled in the middle of the wizard, the device will be reset.
Closing all active client requests.
Preparing device for firmware upgrade.
Uploading firmware image.
Verifying firmware image.
Flashing firmware image. (50% done)
Resetting Device.

10. When show the "Device has been reset" window, it means firmware update successful, wait 90 seconds for BMC restarted.

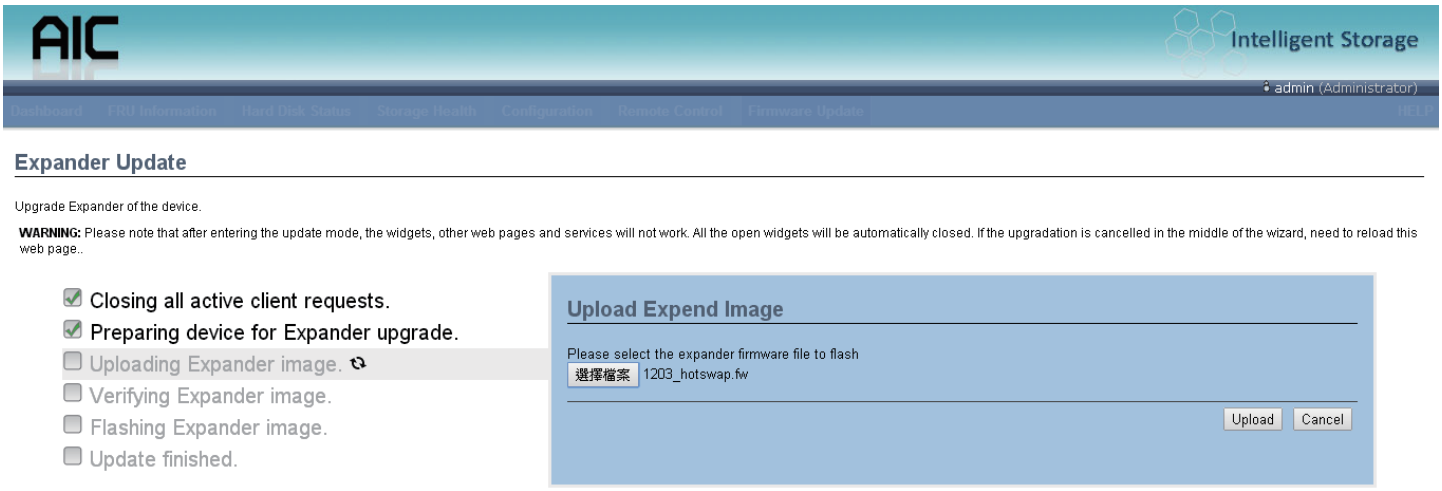

Megarac SP
192.168.88.111/index.html
AIC
Intelligent Storage
admin (Administrator)
Dashboard
FRU Information
Storage Health
Configuration
Remote Control
Maintenance
Firmware Update
HELP
Firmware Update
Upgrade firmware of the device. Press "Enter Update Mode" to put the device in update mode.
Device has been reset
The device has been reset. Please close this browser session and open a new browser session to reconnect to the device.
The device may take about a minute to boot up.
Closing all active client requests.
Preparing device for firmware upgrade.
Uploading firmware image.
Verifying firmware image.
Flashing firmware image. (100% done)
Resetting Device.

4.7 Expander firmware update

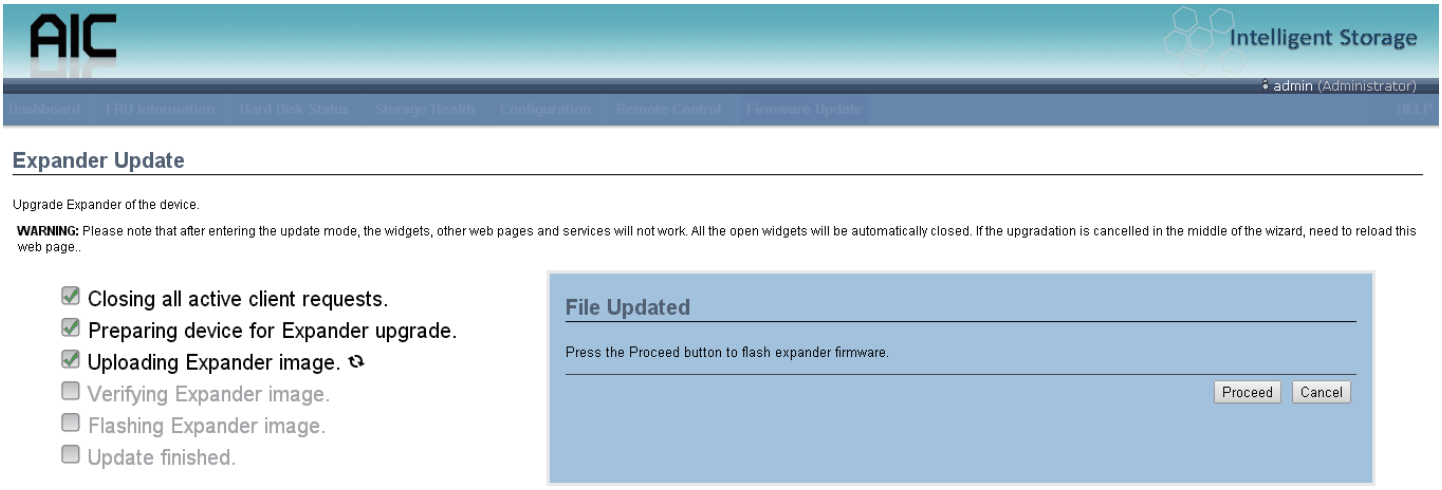
1. Click the “Firmware Update”, it will pop a drop-down menu, click the “Expand Update”



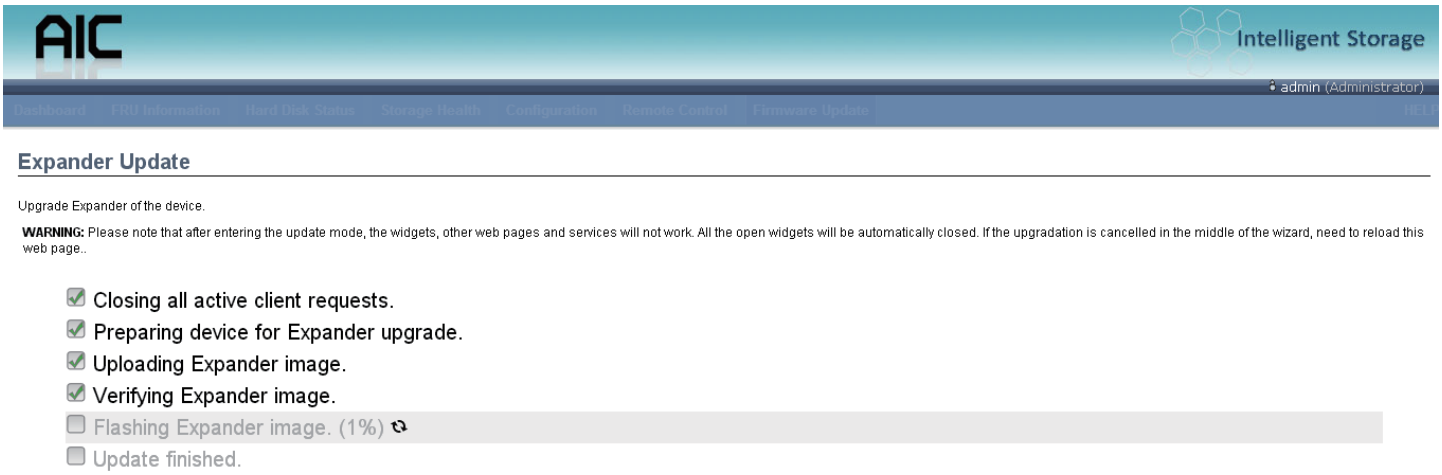
2. Chose the expander firmware file then click the “upload” button.


AIC
Intelligent Storage
admin (Administrator)
Expander Update
Upgrade Expander of the device.
WARNING: Please note that after entering the update mode, the widgets, other web pages and services will not work. All the open widgets will be automatically closed. If the upgradation is cancelled in the middle of the wizard, need to reload this web page..
Closing all active client requests.
Preparing device for Expander upgrade.
Uploading Expander image.
Verifying Expander image.
Flashing Expander image.
Update finished.
Upload Expend Image
Please select the expander firmware file to flash
選擇檔案
1203_hotswap.fw
Upload
Cancel

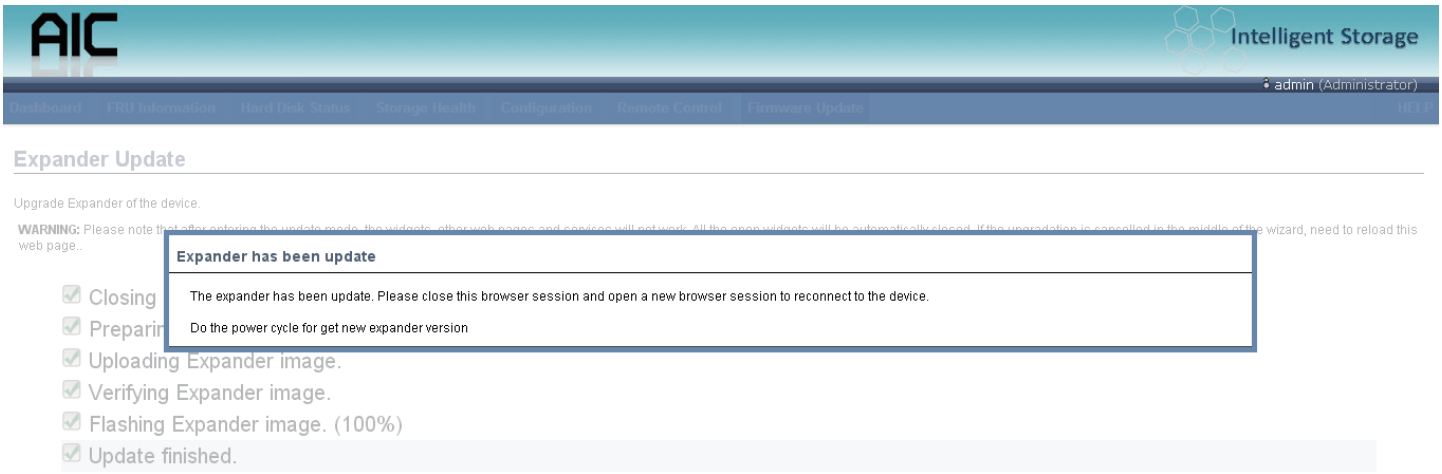
3. Click the “Proceed” button.


AIC
Intelligent Storage
admin (Administrator)
Dashboard
FRU Information
Hard Disk Status
Storage Health
Configuration
Remote Control
Firmware Update
HELP
Expander Update
Upgrade Expander of the device.
WARNING: Please note that after entering the update mode, the widgets, other web pages and services will not work. All the open widgets will be automatically closed. If the upgradation is cancelled in the middle of the wizard, need to reload this web page..
Closing all active client requests.
Preparing device for Expander upgrade.
Uploading Expander image.
Verifying Expander image.
Flashing Expander image.
Update finished.
File Updated
Press the Proceed button to flash expander firmware.
Proceed
Cancel

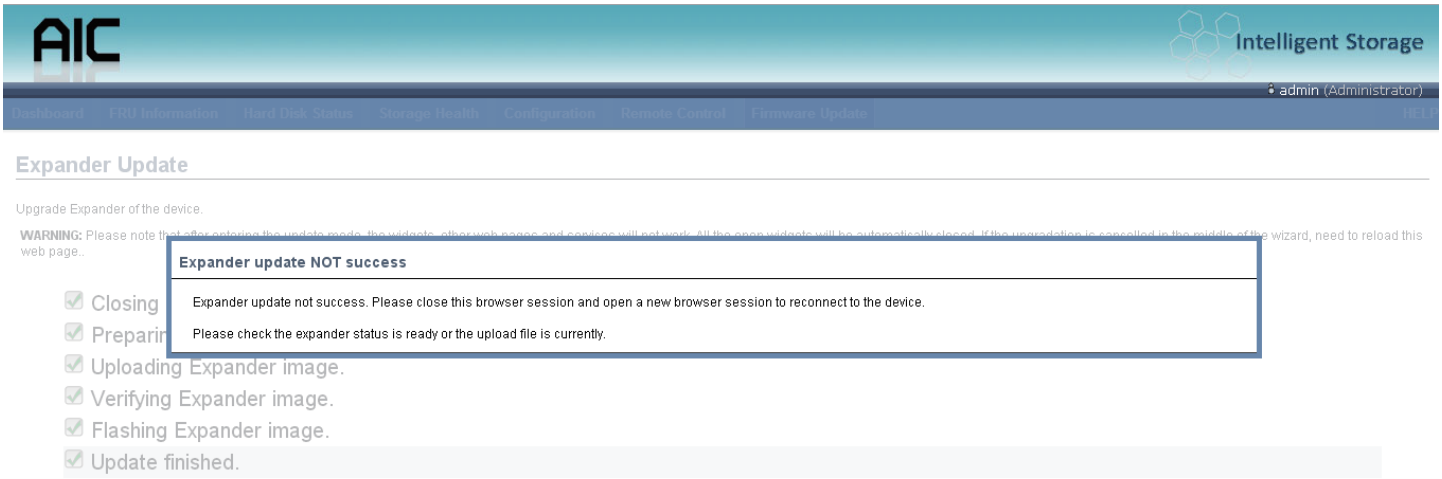
4. Updating


AIC
Intelligent Storage
admin (Administrator)
Dashboard
FRU Information
Hard Disk Status
Storage Health
Configuration
Remote Control
Firmware Update
HELP
Expander Update
Upgrade Expander of the device.
WARNING: Please note that after entering the update mode, the widgets, other web pages and services will not work. All the open widgets will be automatically closed. If the upgradation is cancelled in the middle of the wizard, need to reload this web page..
Closing all active client requests.
Preparing device for Expander upgrade.
Uploading Expander image.
Verifying Expander image.
Flashing Expander image. (1%)
Update finished.

5. Update finished and successful.


AIC
Intelligent Storage
admin (Administrator)
Dashboard
FRU Information
Hard Disk Status
Storage Health
Configuration
Remote Control
Firmware Update
HELP
Expander Update
Upgrade Expander of the device.
WARNING: Please note that after entering the update mode, the widgets, other web pages and services will not work. All the open widgets will be automatically closed. If the upgradation is cancelled in the middle of the wizard, need to reload this web page..
Expander has been update
The expander has been update. Please close this browser session and open a new browser session to reconnect to the device.
Do the power cycle for get new expander version
Closing
Preparin
Uploading Expander image.
Verifying Expander image.
Flashing Expander image. (100%)
Update finished.

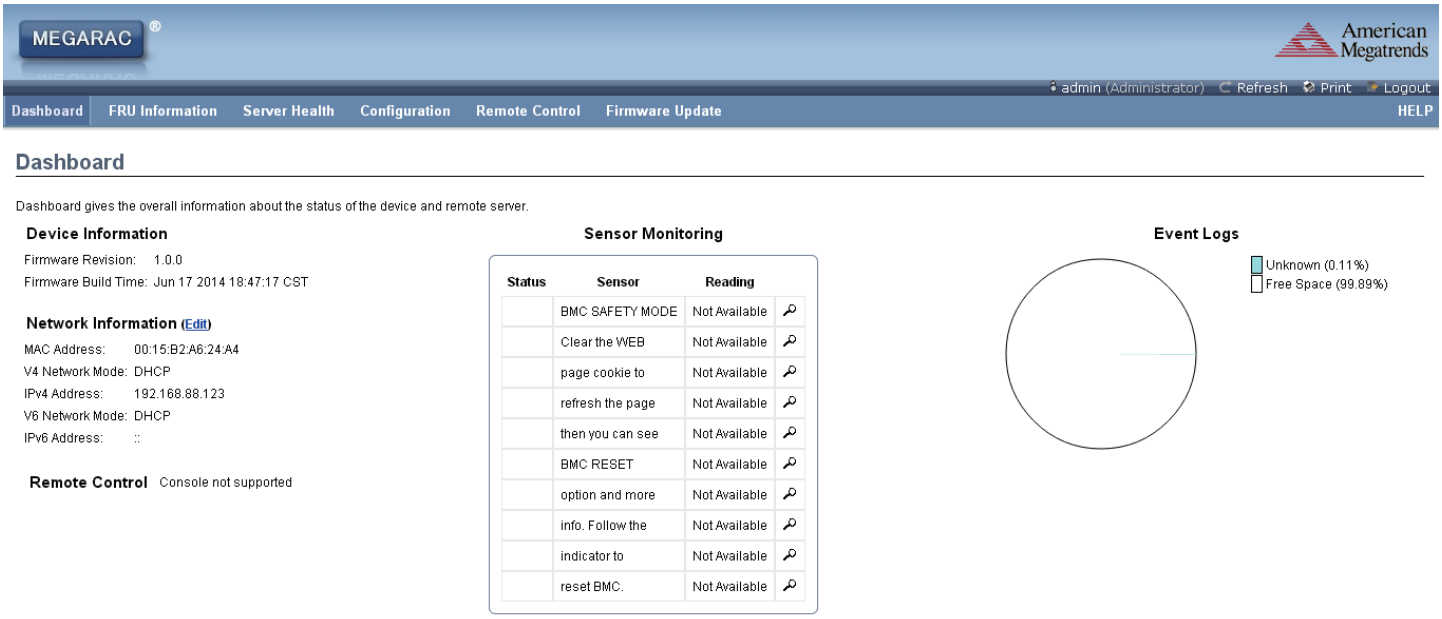
6. If update processes not success, please check the expander firmware is current version or the system is already power off.

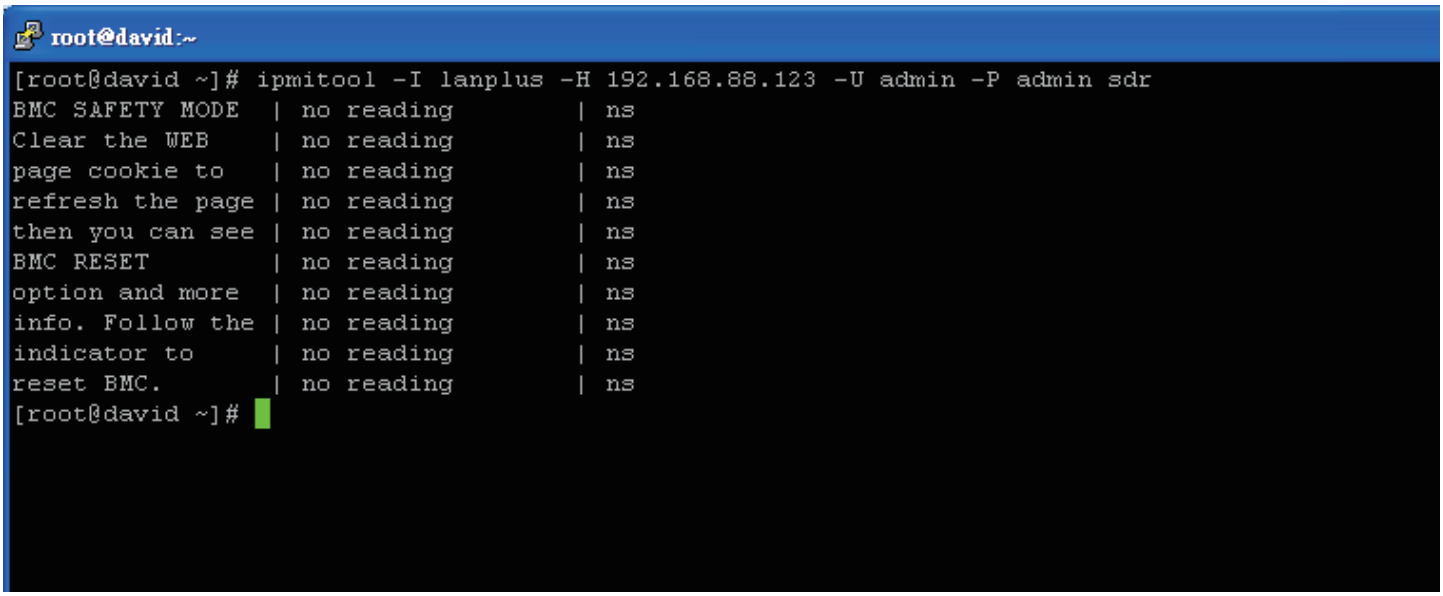

AIC
Intelligent Storage
admin (Administrator)
Dashboard
FRU Information
Hard Disk Status
Storage Health
Configuration
Remote Control
Firmware Update
HELP
Expander Update
Upgrade Expander of the device.
WARNING: Please note that after entering the update mode, the widgets, other web pages and services will not work. All the open widgets will be automatically closed. If the upgradation is cancelled in the middle of the wizard, need to reload this web page..
Expander update NOT success
Expander update not success. Please close this browser session and open a new browser session to reconnect to the device.
Please check the expander status is ready or the upload file is currently.
Closing
Preparin
Uploading Expander image.
Verifying Expander image.
Flashing Expander image.
Update finished.

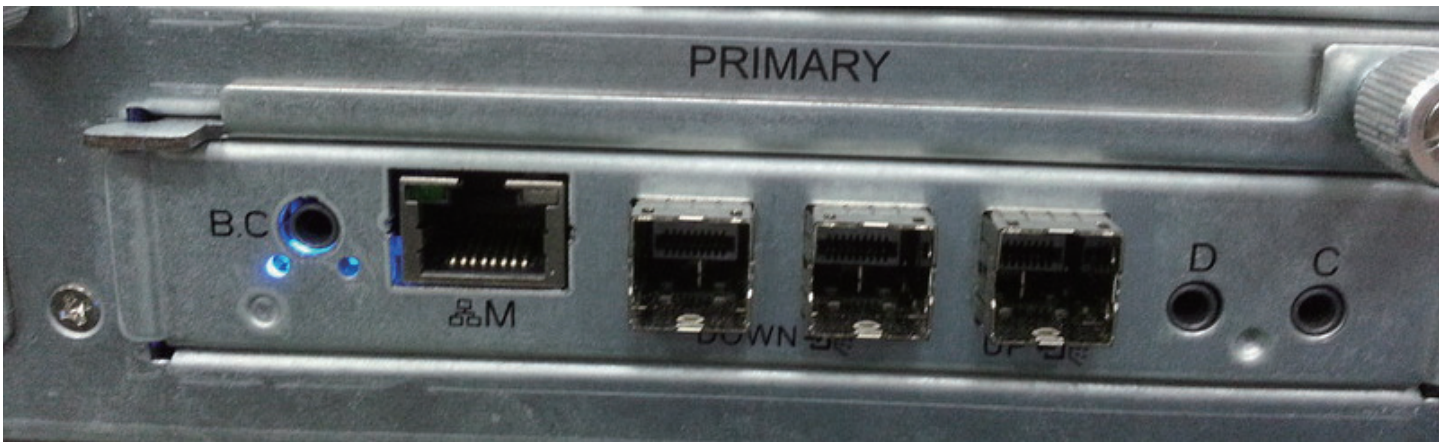
4.8 Firmware safety mode

If you update process fail or primary firmware suffers some error, it will boot in safety mode.

1. If you saw the sensor name, status LED and ID LED are abnormal, the LEDs are cross blinking, it means firmware is in safety mode, in safety mode some function will be useless!

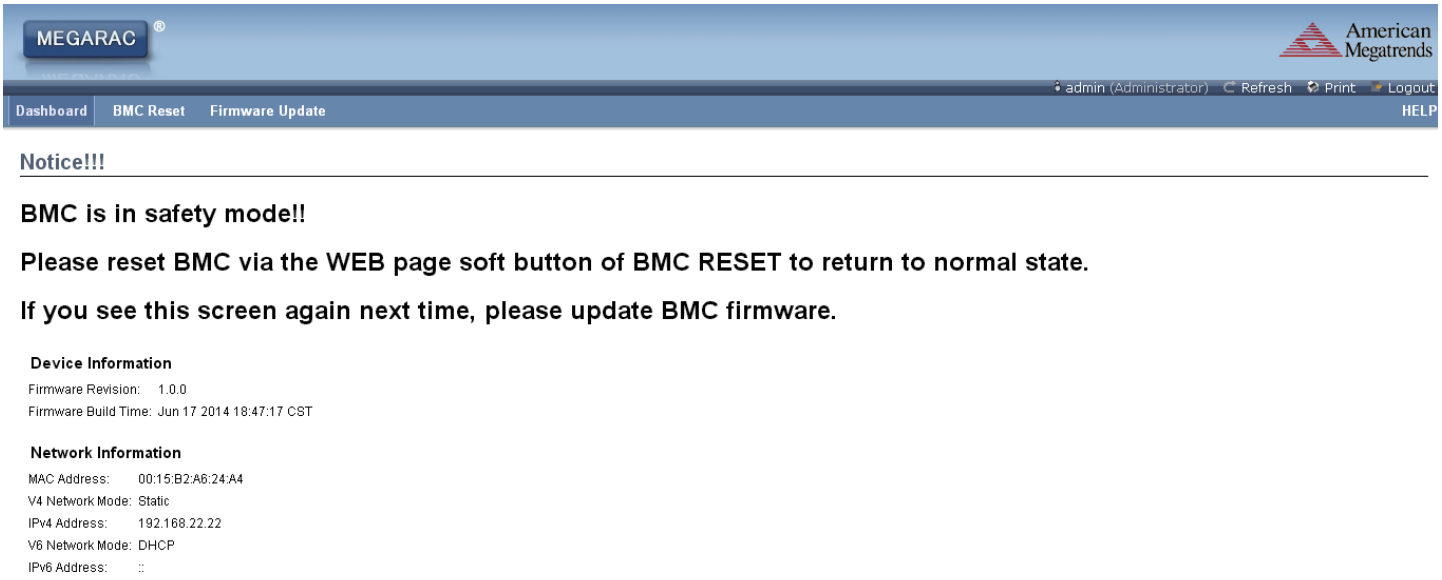



root@david:~
[root@david ~]# ipmitool -I lanplus -H 192.168.88.123 -U admin -P admin sdr
BMC SAFETY MODE | no reading | ns
Clear the WEB | no reading | ns
page cookie to | no reading | ns
refresh the page | no reading | ns
then you can see | no reading | ns
BMC RESET | no reading | ns
option and more | no reading | ns
info. Follow the | no reading | ns
indicator to | no reading | ns
reset BMC. | no reading | ns
[root@david ~]#

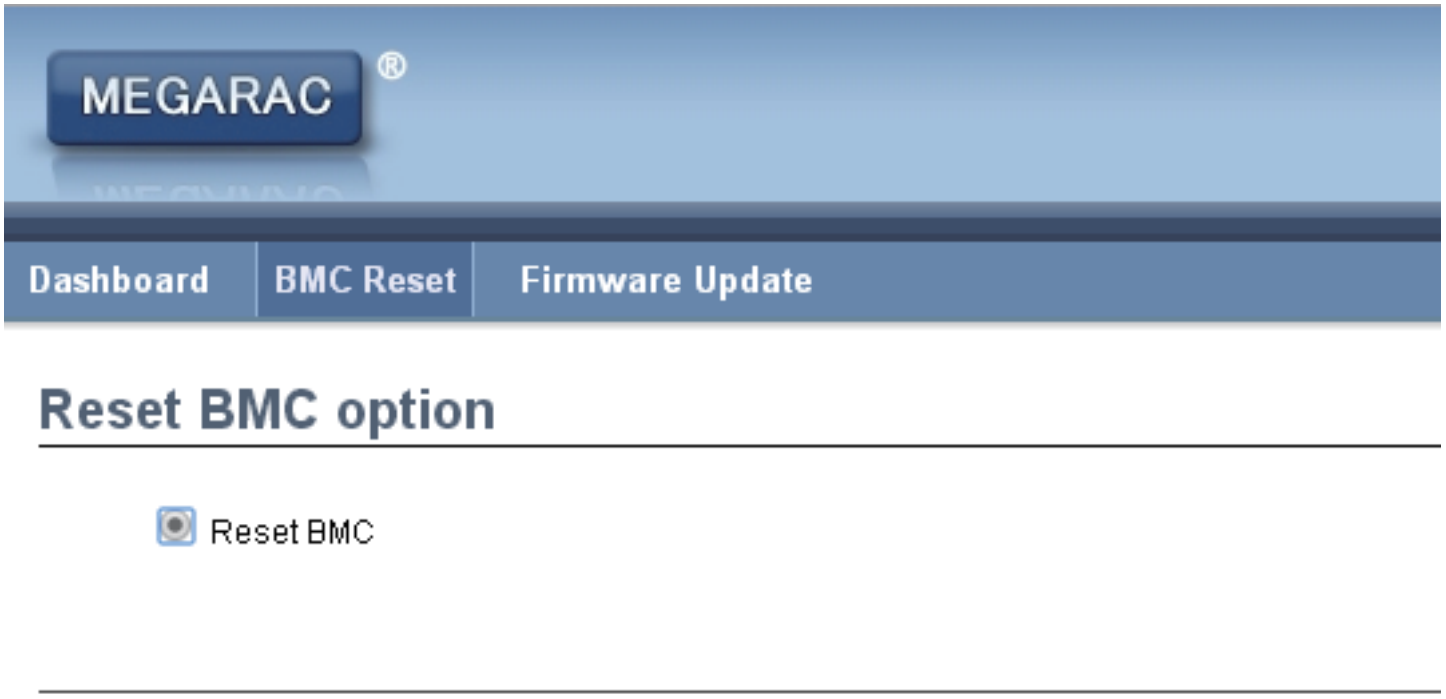

PRIMARY
B.C
M
DOWN
UP
D
C

PRIMARY
B.C
M
DOWN
UP
D
C

2. Please clear browser cookies, and re-start browser, BMC web UI will refresh web page object

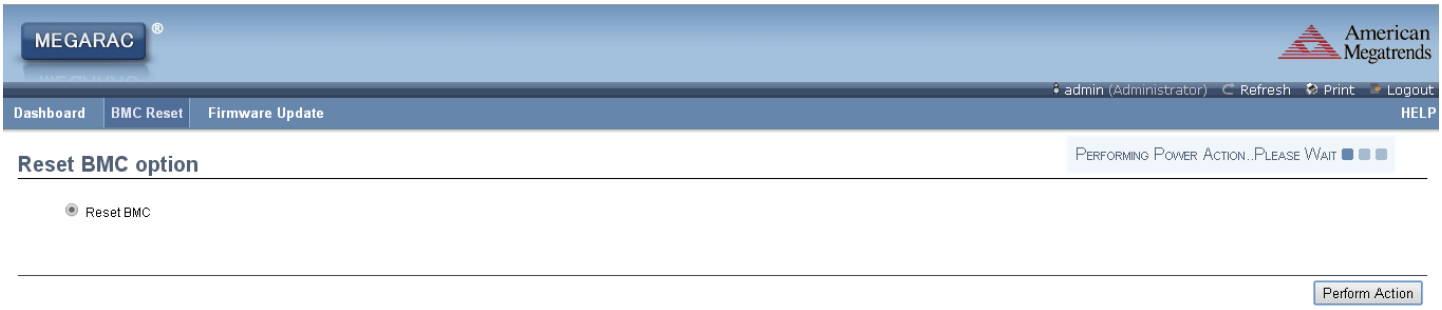


3. Click the “BMC Reset” button, into the reset page



4. Select the “BMC reset”, and Click the “Perform Action” button.

5. The page will show “Requesting” status, because reset BMC, this web page will be invalid, wait 90 seconds and clear browser cookies, re-login web UI again.



6. If still see the safety mode page, please follow section 4.5 web update to do firmware update.

Chapter 5. Technical Support

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